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A. L. KROEBER

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COMPOSITION OF CALIFORNIA
SHELLMOUNDS

BY
EDWARD WINSLOW GIFFORD

UNIVERSITY OF CALIFORNIA PRESS
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COMPOSITION OF CALIFORNIA SHELLMOUNDS

BY
EDWARD WINSLOW GIFFORD

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INTRODUCTION

The study of the composition of California shellmounds for the present paper was begun in August, 1913, at the suggestion of Dr. A. L. Kroeber. The paper has also had the benefit of his advice.

The first portion of the work was to find by analysis the quantity of the various constituents entering into the mound composition, the relation of quantity and depth in the occurrence of these constituents, and the amount of disintegration to which they have been subjected. The second portion of the work has been to consider the facts brought out by the analyses and see, first, whether they gave any insight into the environment of the shellmounds during their growth, and hence, whether they threw any light on the daily life of the shellmound dwellers; second, whether they offered any evidence as to the age of the mounds, either directly or relatively.

The results of the analyses of eighty-four samples (all part of the collection of the University of California Museum of Anthropology) are embodied in the present paper. These samples total in weight 10,003.15 grams, and range in weight from 31.47 to 832.9 grams (average 119.08 grams). In each case the sample is typical of the

mound at a particular level and does not merely represent the contents of a pocket of any kind, for example a fireplace. Such pockets and their contents have been purposely avoided as not being typical.

Each sample was sifted through three square-mesh screens. The largest screen had meshes twelve millimeters square, the intermediate had meshes four millimeters square, and the smallest meshes two millimeters square. The material caught by each of these three screens, beginning with the coarsest, was separated by the eye and the various constituents weighed. The fine material passing through the two-millimeter screen was analyzed chemically, by Mr. C. A. Harwell of the University of California, for the proportion of shell and of ash. All matter not proving to be either shell or ash in this chemical analysis has been called residue wherever mentioned in this paper.

Samples were examined from mounds, shown on the accompanying map, in the vicinity of San Francisco Bay, as listed below. The mound numbers refer to a manuscript map¹ and, in part, to a published map,² both by Mr. N. C. Nelson.

Sausalito (Mound No. 3)	6 samples
Greenbrae (Mound No. 76).....	8 "
San Rafael (Mound No. 86c).....	6 "
Carquinez (Mound No. 236).....	2 "
Ellis Landing (Mound No. 295).....	10 "
West Berkeley (Mound No. 307).....	8 "
Emeryville (Mound No. 309).....	19 "
Castro (Mound No. 356).....	5 "
San Mateo (Mound No. 372).....	4 "
San Mateo Point (Mound No. 418).....	2 "
San Francisco (Mound No. 417).....	1 sample
Half Moon Bay (Mound No. 407).....	4 samples

Samples were also examined from three mounds outside of the San Francisco Bay region. The first two of these, listed below, are on the shores of Humboldt Bay in northern California, and are numbered as shown below on a manuscript map of that region by Mr. L. L. Loud.³ One, Eureka mound, is a mile and a half east of the county courthouse at Eureka. The other, Gunther Island mound, is a mile north of the waterfront of Eureka and is on an island which lies in front of the town. The third mound (Point Loma) is on the west shore of San

¹ Univ. Calif. Mus. Anthropol., No. 13-1065.

² N. C. Nelson, *Shellmounds of the San Francisco Bay Region*, Univ. Calif. Publ. Am. Arch. Ethn., VII, map 1, 1909.

³ Univ. Calif. Mus. Anthropol., No. 13-994.

Diego Bay in southern California. Its exact location is also shown on a manuscript map.⁴

Eureka (Mound No. N59).....	1 sample
Gunther Island (Mound No. N67).....	7 samples
Point Loma (Mound No. S49).....	1 sample

The two samples obtained from Carquinez mound, and likewise the five from Castro, have not yet been catalogued with the Museum's collection. The remaining samples, arranged in order of depth of sample from top to bottom of each mound, are catalogued as follows:

Sausalito mound: 1-14817 to 1-14822.
 Greenbrae mound: 1-14906 to 1-14913.
 San Rafael mound: 1-14968 to 1-14973.
 Ellis Landing mound: 1-11406, 1-11403, 1-11399, 1-11407, 1-11400,
 1-11404, 1-11408, 1-11401, 1-11405, 1-11402.
 West Berkeley mound: 1-7312, 1-7313, 1-17003, 1-7314 to 1-7318.
 Emeryville mound: 1-9869, 1-9870, 1-9872, 1-9874, 1-9876, 1-9878,
 1-9880 to 1-9884, 1-9890 to 1-9893, 1-7941, 1-7963, 1-7964,
 1-7967.
 San Mateo mound: 1-18586 to 1-18588, 1-16758.
 San Mateo Point mound: 1-17331, 1-18585.
 San Francisco mound: 1-17031.
 Half Moon Bay mound: 1-17320, 1-17322 to 1-17324.
 Eureka mound: 1-17978.
 Gunther Island mound: 1-18546, 1-18547, 1-18553, 1-18556, 1-18576
 to 1-18578.
 Point Loma mound: 1-17366.

All depths were measured in feet from the surface of the mound. Often the samples from a given mound, however, were not all taken in one vertical plane. Such is the case with the samples from Carquinez, Ellis Landing, West Berkeley, Emeryville, Castro, San Mateo, San Mateo Point, Half Moon Bay, and Gunther Island.⁵ The samples from

⁴ Univ. Calif. Mus. Anthrop., No. 13-960.

⁵ Of the Ellis Landing samples, those taken at 1.5, 4.5, and 7 (second seven in tables) feet are all in the same vertical plane (70 feet from the center); those taken at 2, 7 (first seven in tables), and 11 feet are all in another vertical plane (35 feet from the center); and those taken at 3, 6, 10, and 17 feet are in a third vertical plane (the center). Of West Berkeley samples the one marked 4.5 feet was not taken in the same vertical plane as the other samples. The first fifteen Emeryville samples (.5 to 19.5 feet deep) are from a vertical shaft sunk on the eastern side of the mound. The remaining four samples are from various places at the bottom of an excavation on the western side of the mound, and represent the mound at its very base. The first three Castro samples (1, 2, and 3 feet deep) were taken in one vertical plane; so also were the first three San Mateo samples (3, 6, and 8 feet deep). The first Half Moon Bay sample (1 foot deep) was not taken in the same vertical plane with the other three. The last three Gunther Island samples (6, 6.5, and 8 feet deep) came from one vertical plane.

Sausalito, Greenbrae, and San Rafael were taken from one vertical plane in the case of each mound.

Where only the approximate and not the absolute depths are given in the Museum's catalogue, the average depth is given in this paper. For example, three to six feet in the catalogue is here given as four and a half feet to serve better the purposes of comparison.

The listing of the mounds in most of the tables is in a series beginning at Sausalito on the north side of the Golden Gate and following the bay shore around to San Francisco on the south side of the Golden Gate. Then come the mounds located at Half Moon, Humboldt, and San Diego bays.

The species of shells from the Point Loma mound are entirely foreign to the San Francisco Bay and Humboldt Bay mounds. For that reason the shell of the single Point Loma sample has not been separated specifically, being of no use for comparison.

The records of the analyses are stated in terms of *weight* and not of volume.

SHELLMOUND CONSTITUENTS

The seven main constituents into which each sample of shellmound material was separated were fish remains (bones and scales), other vertebrate remains (chiefly bones), shell (almost entirely molluscan, but including also barnacles, crab shell, and sea-urchin), charcoal, ash, rock, and residue (earth, sand, charcoal dust, etc.). Of these constituents, shell is the most abundant, the average mound containing over fifty-two per cent by weight. Then follow residue with nearly twenty-eight per cent, ash with over twelve per cent, rock with over seven per cent, and charcoal, fish remains, and other vertebrate remains with less than one per cent combined. Table 1 gives the average per cent of these constituents in the fifteen mounds.

The percentage for fish remains, other vertebrate remains, charcoal, and rock should undoubtedly be higher than given in the tables. All of the very minute pieces of these constituents passed through the fine or two-millimeter screen, and, as they were not separated chemically, are included in the shell, ash, and residue. The percentages for these three are therefore too high, but there is no practical method of making the adjustment, so that this slight error in the results will have to stand.

In the second table the seven constituents of the first table have been combined so as to form only three groups. Fish remains, other vertebrate remains, and shell are included under material derived from animal sources; charcoal and ash under products of combustion; and rock and residue under material derived from inorganic sources. The percentages in table 1 for shell and ash differ but little from the corresponding percentages in table 2 under animal and combustion. This is due in the first case to the uniformly small amounts of fish and other vertebrate remains found in the mounds, and in the second case to the uniformly small quantity of charcoal. The average mound is composed by weight of over fifty-two per cent of material derived from animal sources, of thirteen per cent of material produced by combustion, and of thirty-five per cent of material derived from inorganic sources. For the average San Francisco Bay mound the figures are a trifle different, being fifty-six, fifteen, and twenty-nine, respectively.

The seven main constituents are presented in detail in the third to the ninth tables. The quantities are stated as percentages of the weight of each sample. It will be noted that the percentages for fish remains, other vertebrate remains, and charcoal are all very low, while those for shell, ash, rock, and residue range widely. In the case of fish remains (table 3) the two high percentages (2.11 and .9) for Emeryville are due to extraordinarily large fragments of bone. Considering the rapidity with which fish bones disintegrate, especially when cooked, it seems rather remarkable that any were preserved at all. Inasmuch as there are found in some of the mounds, and at all levels, grooved stones considered to be net sinkers, it is evident that fishing was a regular means of procuring food.⁶

In the material examined remains of other vertebrates were found in slightly larger amounts than those of fish (cf. tables 3 and 4). If these samples are typical, one of two conclusions must be true: either the shellmound people ate very few vertebrates outside of fish, or some destroying agency (possibly a domestic dog) has been a factor in obliterating the evidence.⁷

In the eighth table it will be noted that specimens of rock were retained by the screens from all but two of the eighty-four samples. The records of the amounts caught by each screen demonstrate that in the average mound eighty-three per cent passed through the twelve-

⁶ Cf. N. C. Nelson, *Shellmounds of the San Francisco Bay Region*, Univ. Calif. Publ. Am. Arch. Ethn., vii, p. 339, 1909.

⁷ Cf. N. C. Nelson, *op. cit.*, p. 339.

millimeter and was caught by the four-millimeter and two-millimeter screens. From this it is evident that eighty-three per cent of the rock consists of very fine fragments and pebbles. Mounds such as Sausalito and San Mateo Point probably derive the high average percentage of rock (see table 1) from the stony land on which they are laid. In many cases, however, the pebbles and small fragments of rock doubtless were attached to roots and bulbs dug elsewhere for food. Some of the ordinary earth or dirt in the shellmounds must have been brought there in a similar adventitious fashion.

Mussel (*Mytilus edulis*), clam (*Macoma nasuta*), and oyster (*Ostrea lurida*) are the most prominent molluscan species, at least one of them being of importance in each of the mounds except Half Moon Bay and Castro. In the eleven San Francisco Bay mounds, with the exception of Ellis Landing and Castro, mussel predominates above all other species. In Ellis Landing clam and in Castro horn-shell (*Cerithidea californica*) are the commonest species. In the tenth table are shown the records for the San Francisco Bay region. The amount of each species is mentioned as a percentage of the total amount of shell.

The mounds of Half Moon and Humboldt bays naturally yield, at least in part, shell species different from those typical of the San Francisco Bay mounds. These species are listed in the eleventh table. That the sources of shellfish supply of the Eureka and Gunther Island mounds, although less than two miles apart, were not the same, is made apparent at a glance by the species found in Gunther Island and not in Eureka, and furthermore, where they have species in common, by the widely divergent percentages. Gunther Island savors strongly of the ocean as well as the bay; Eureka only of the bay.

As stated in the introduction, three sizes of screens were used as aids in segregating the various constituents. At the same time record was kept of the amount of each constituent caught by these screens, and likewise of the amount of material passing through the fine screen. There proved to be a considerable variation in regard to this last point. Eighty-seven per cent of the Gunther Island and only forty-one per cent of the San Mateo material passed through the fine screen. Castro with eighty-five per cent and Point Loma with eighty-two per cent are similar to Gunther Island in this respect. This is owing to the abundance of earth in Castro and of sand in Gunther Island and Point Loma. The remaining mounds treated in this paper are more typical than the above four, ranging from sixty-six per cent in the case of San Rafael to forty-three per cent in Ellis Landing. Sixty

per cent of the material composing the average mound passed through the fine, or two-millimeter, screen.

That all shell species do not break up alike was definitely demonstrated by keeping a record of the amount of mussel, clam, and oyster caught by the three screens. Of mussel, two per cent was caught by the coarse screen, twenty-eight per cent by the medium, and seventy by the fine; of clam fifteen per cent by the coarse screen, fifty-one by the medium, and thirty-four by the fine; of oyster thirteen per cent by the coarse screen, sixty by the medium, and twenty-seven by the fine. It is very clear that the mussel breaks far more readily than either clam or oyster, a fact which will have a bearing later in explaining the difference in the size of shell fragments in the upper and lower portions of Ellis Landing mound.

SHELLMOUND ENVIRONMENT

No evidence of change of environment is afforded by the results of the analyses. The definite facts established point the other way: that is, towards the continuity throughout shellmound times of the conditions as they were at the coming of the white man. This continuity of conditions is demonstrated by the shell species found in the mounds. It may be taken as almost axiomatic that the species in a mound reflect the molluscan fauna of the vicinity, and hence the environment during the period of growth of the mound. A very clear case in point is that of the small San Francisco mound located in a swamp in the Presidio on the south shore of the Golden Gate. This mound, as one can see by consulting the accompanying map, is situated in a position favorable for the hunting of both bay and ocean species of mollusks. The fact that the mound dwellers sought both forms regularly is shown in table 10 by the nearly equal percentages of *Mytilus californianus* and *Mytilus edulis*. The former is an ocean species frequenting surf-beaten rocks; the latter lives in the quieter bay waters.

The presence of large quantities of oyster shell (*Ostrea lurida*) in the shellmounds of the central San Francisco Bay region—West Berkeley, Emeryville, San Mateo, and San Mateo Point—points to the similarity between the conditions during the period of their growth and the conditions during modern times. This abundance of *Ostrea lurida* is made manifest in table 10. Generally speaking, these four

mounds lie in the region which has been largely utilized at the present day for the raising of the introduced Atlantic coast oyster (*Ostrea virginiana*) for the market. The introduced oyster has in part displaced the native oyster of shellmound days.

Many examples of the occurrence throughout mounds of other species might be added as further proof of the absence of sweeping physiographic changes in the environment of the shellmounds. However, I will be content with mentioning two others, which are particularly interesting because they not only show continuity of conditions but also the advantages and disadvantages of the locations of the mounds involved. These two cases hinge on the occurrence of the horn-shell (*Cerithidea californica*), a small univalve with a great many spirals, and of another univalve (*Phytia myosotis*), which is minute.

In Castro mound near the southern end of San Francisco Bay, the horn-shell proves to be the commonest species (see table 10). Almost invariably it is found with the apex of the spiral broken off, evidently to aid in extracting the animal without crushing the entire shell. This species inhabits salt marshes, where it is usually found by thousands in shallow pools on top of the marsh. Its occurrence from top to bottom of the Castro mound proves the existence of salt marsh near by from the very beginning of its accumulation. This salt marsh with its deep sloughs, lying between the mound and the bay, must have been a fairly effective barrier against the mound-dwellers reaching the bay shore. This conclusion is further warranted by the comparative scarcity here of ordinary shellmound species, which is very well shown by the column for Castro in table 10. Further negative proof of the difficulty that the Castro people had in obtaining the usual molluscan food is also shown in table 10 by the scarcity or absence of *Cerithidea californica* in other mounds, in spite of the fact that it is a common species in the San Francisco Bay region. Thus it appears that the people of Castro, on account of the difficulty of obtaining the ordinary shellmound species, were forced to make use of the small and unsatisfactory *Cerithidea californica*. Conversely, the people of the other San Francisco Bay mounds appear to have neglected it because of the bountiful supply of other molluscan food.

The deduction that the Castro people lived under conditions differing from those at Ellis Landing, for example, is obvious. It is supported, moreover, by the fact that nearly seventy per cent of Ellis Landing mound is composed of shell, while Castro mound contains only about twenty-six per cent (see table 1).

The next species to be considered in connection with the matter of environment is the tiny *Phytia myosotis*. Its distribution in certain of the San Francisco Bay mounds is indicated by crosses in table 12. Like the last species, it also lives in salt marshes, where it occurs on the underside of driftwood which has lain in the marsh for a considerable time. Briefly then, the presence of *Phytia myosotis* in a mound indicates that there must have been salt marsh close by; which, furthermore, supplied the inhabitants with some of their firewood. An examination of table 12 shows therefore that salt marsh existed in the vicinity of some of the mounds throughout the period of their growth.

Mr. N. C. Nelson inclines to the theory that some of the San Francisco Bay shellmounds may have been "begun, if not actually abandoned, prior to the building up of the now broad belt of reclaimable marsh."⁸ The absence of salt marsh during shellmound days would mean a very remote antiquity for the mounds and a great difference in the physical geography of the San Francisco Bay region. There is no evidence for either. The salt marsh doubtless grew rapidly enough to offset the general subsidence of the region as a whole and thus kept the conditions practically unchanged for countless centuries. Only a very sudden and extensive elevation or subsidence could obliterate the salt marsh of the bay. This would have meant a great difference in the habits of life of the people. The contents of the mounds certainly offer no indication of such a condition, while the presence of the two mollusks discussed give positive proof that such was not the case.

Mr. Nelson directs attention "to the noticeable variation of the preponderating shell species represented in the section wall of the Ellis mound (see pl. 49, fig. 1). The lower portion of this accumulation is composed almost exclusively of mussel shells, and it is only in the upper eight feet that the clam shells become at all plentiful."⁹ Table 13 bears out Mr. Nelson's statement. In it, the amount of clam (*Macoma nasuta*) in each sample is compared with the amount of mussel (*Mytilus edulis*), each species being given as a percentage of the combined quantities of both. It will be noted that below ten feet the amount of *Macoma* drops to less than ten per cent by weight of the

⁸ Nelson, Shellmounds of the San Francisco Bay Region, p. 328; see also p. 317.

⁹ N. C. Nelson, The Ellis Landing Shellmound, Univ. Calif. Publ. Am. Arch. Ethn., VII, p. 376, 1910. The reference in the above quotation is to plate 49 in the paper cited.

combined species. It would be interesting to test by samples the extent to which Mr. Nelson's assertion holds true below the depth of seventeen feet.

Similar variations of the preponderating shell species are found in Sausalito mound between mussel and clam (table 14); in Emeryville mound between mussel, oyster (*Ostrea lurida*), and clam (table 15); in Castro mound between mussel, horn-shell (*Cerithidea californica*), and oyster (table 16); in San Mateo mound between mussel and oyster (table 17); in Half Moon Bay mound (table 18) between the large coast mussel (*Mytilus californianus*) and the black turban shell (*Tegula funebris*); and in Gunther Island mound between all four of its chief food species (table 19). The twentieth table for West Berkeley mound shows variations less extensive than in the preceding. Tables 21 and 22 show that in Greenbrae and San Rafael mounds clam (with one exception) and oyster in no case amount to over ten per cent of the total of mussel, clam, and oyster. Moreover, mussel varies but little.

All of these cases, where not merely accidental, are to my mind nothing but instances of the mound-dwellers' overtaxing the supply of one particular shell species and thus being forced to rely more on other species. I consider that this explanation covers the case of Ellis Landing as well as of the other mounds. I have actually seen a modern instance of this sort. Several years ago clams (*Mya arenaria*) became very scarce in the mud flats at the east end of the city of Alameda on the eastern shore of San Francisco Bay, owing to a few Chinese clam diggers becoming too persistent in their work in such a small area. Why could not such a case have occurred in ancient times? With Ellis Landing mound, I fail to see where it is necessary to postulate changes in physiography to account for the abundance of clam shell in the upper portion of the mound and its scarcity in the lower portion.¹⁰ A further consideration of table 13 will show that in part mussel is more abundant than clam in the upper portion of the mound. This recurrence of mussel in abundance perhaps represents a recovery from the drain to which it had been subjected. It is perfectly natural that a primitive people should prefer mussels, for they can be obtained without tools and merely for the effort of pulling them off the rocks or wood on which they grow. Clams, on the other hand, have to be dug, requiring more labor.

¹⁰ Cf. N. C. Nelson, *The Ellis Landing Shellmound*, pp. 376-378.

The very different manner in which mussel shell and clam shell break up has been already pointed out. In Ellis Landing an average of seventy-one per cent of all the mussel (see table 23) stopped by the screens was caught by the fine or two-millimeter screen, while only fifteen per cent of the clam was caught by the same screen. Speaking of the difference in structure of the upper and lower portions of Ellis Landing mound, Mr. Nelson states that "the upper six or eight feet of the deposit is comparatively coarse material," while "below it the material is of an almost uniformly fine and compact nature."¹¹ Two pages farther on in the same paper, he says that "the lower portion of this accumulation is composed almost exclusively of mussel shells, and it is only in the upper eight feet that the clam shells become at all plentiful." These two statements seem to dovetail with the facts mentioned above as to the average size of the fragments of mussel and clam shell in the mound. It is obvious that the peculiarity of structure, to which Mr. Nelson calls attention, is due merely to the different manner in which the preponderating species in the two portions of the mound break up.

Besides the cause just mentioned, another has been operative in producing layers and streaks of finely broken shell at various depths in the shellmounds. This second cause, which operated constantly while the mounds were inhabited, was the people themselves. In their excursions for fuel, food, water, and other necessities, the mound-dwellers must in time have formed more or less well-defined trails. Not only must we consider trails, but also the places frequented by people around their houses. Then, too, dances and other ceremonies, which attracted a large number of visitors, were certainly instrumental in breaking up the shell. On the other hand, pockets of unbroken shell probably represent refuse heaps where people were not in the habit of walking. The occurrence of the sort of streaks and layers mentioned above is shown in table 23 for Sausalito, Greenbrae, San Rafael, Ellis Landing, and Emeryville mounds. Mussel shell is used to demonstrate this point, a high percentage representing a large amount of finely broken shell, a lower percentage indicating the reverse.

It is just possible that the favorable location for shellfish at Ellis Landing mound (note in table 1 that it has a higher percentage than any other mound) may have made it not only the metropolis but also a sort of ceremonial center for the region. This would be an additional

¹¹ Nelson, *The Ellis Landing Shellmound*, p. 374.

factor, in helping to exhaust the mussel supply and enforce the more extended use of clams.

AGE OF THE SHELLMOUNDS

Mr. N. C. Nelson estimates the volume of Ellis Landing mound at 1,260,000 cubic feet,¹² in other words 35,649 cubic meters. By actual test of shellmound material before it had been broken up or disturbed, I have found that its specific gravity is about 1.3. This makes the total weight of the Ellis Landing shellmound about 51,085 short tons. The shell entering into the mound would be about 69.43 per cent (see table 1) of this, or 35,468 tons. If we take Mr. Nelson's estimate of thirty-five hundred years as the age of the mound, the shell must have been laid down at the average rate of 10.13 tons a year, or fifty-six pounds a day. This amount of shell a day certainly seems reasonable enough, if we accept one hundred people as the average population of the mound throughout its growth. Both Dr. Kroeber and Mr. Nelson consider this figure to be the most probable, the former basing his opinion on his knowledge of California Indian life, the latter on his findings at Ellis Landing.

Turning to table 1 it is found that 13.99 per cent of Ellis Landing mound consists of ash. The actual weight of ash in the mound is therefore about 7147 short tons. Again employing Mr. Nelson's estimate of thirty-five hundred years as the age of the mound, we find that ash accumulated at the rate of 2.04 tons a year, or 11.2 pounds a day. If we adopt .009¹³ pound of ash as the average amount produced by one pound of wood, then it appears that the Ellis Landing people used 1240 pounds of wood a day. If the assumed population of one hundred individuals was distributed among fifteen families, this would mean an average of eighty-three pounds of wood per family per day. This is a moderate amount if one considers that they had an abundance of driftwood close at hand. The two great rivers which drain the interior of California, the Sacramento and the San Joaquin, empty into San Francisco Bay through the adjoining Suisun and San Pablo bays. They must have given the shellmound people of the region a great variety of driftwood as well as a great quantity.

¹² Nelson, *Shellmounds of the San Francisco Bay Region*, p. 346.

¹³ This approximate figure was derived by averaging the percentages of ash for the trees likely to have been accessible to the shellmound dwellers. The percentages were obtained from Romeyn Beck Hough, *American Woods*, 1888 ff.

These results accordingly corroborate Mr. Nelson's figure of thirty-five hundred years as the age of Ellis Landing mound. Of course they are dependent primarily on the acceptance of his assumption of one hundred people as the average population day in and day out.

Dr. Max Uhle estimated the volume of Emeryville mound at 39,000 cubic meters.¹⁴ Again using 1.3 as the specific gravity of shellmound material, the weight of the entire mound proves to be about 55,885 short tons. Of this mass I assume that 59.86 per cent by weight is shell and 13.47 per cent is ash, as shown in table 1. Then in actual figures the shell in Emeryville mound would weigh 33,455 tons and the ash 7528 tons.

Let us suppose that the average population at Emeryville mound was one hundred as at Ellis Landing, for the two mounds approximate each other in volume. If we allow that these hundred people ate shellfish at the same rate as the Ellis Landing people, it then took thirty-three hundred years to accumulate the shell in Emeryville mound. Assuming that thirty-three hundred years is the correct age, the amounts of wood burned daily by the two populations were slightly different, though in virtual agreement. In Ellis Landing with an average population of one hundred and an age of thirty-five hundred years, it was shown that the rate of accumulation of ash was 11.2 pounds a day. In Emeryville mound, however, the people burned more wood, and ash accumulated at the rate of twelve pounds a day or 2.2 short tons a year. The Emeryville people used about 1333 pounds of wood a day.

Of course the results for Emeryville could be reversed by assuming that the amount of wood burned per day was the same as at Ellis Landing. In that case the amount of shellfish consumed per day would be less and the age of the mound would be thirty-seven hundred years instead of thirty-three hundred. This is really a further confirmation of the probable age of the mound rather than a contradiction. By age I mean, of course, the number of years during which accumulation took place; not the number of years the mound has been in existence.

It is plain that results depend upon what we assume our unknown quantities to be, and unfortunately there are many of these. Nevertheless, the period of thirty-three hundred or thirty-seven hundred years for Emeryville mound may be claimed to be a reasonable length

¹⁴ The Emeryville Shellmound, Univ. Calif. Publ. Am. Arch. Ethn., VII, p. 10, 1907.

of time for the accumulation of the mound. In fact, it is substantiated by Mr. Nelson's figures for Ellis Landing. His estimate and the present one for Emeryville really corroborate each other.

This method of ascertaining the age of the mounds might be applied to all treated in this paper, were it not that the precarious factors are too numerous. The percentages of shell and ash in table 1, however, afford evidence that all shellmounds did not grow at the same rate. The mode of accumulation for the average mound was one part of ash to four parts of shell. In Ellis Landing the ratio is one to five and in Emeryville one to four. Emeryville matches the average mound, while Ellis Landing exceeds it on the side of shell. San Francisco and Emeryville mounds are the only ones that show the average ratio of ash to shell.

Considering the entire list of fifteen mounds, four have exceptionally large amounts of ash compared to shell: San Rafael, Carquinez, and West Berkeley with the ratio of one to two; and Castro with the ratio of one to three. In the majority of mounds the amount of ash is below the average when compared to the amount of shell: Greenbrae, Ellis Landing, and San Mateo with the ratio of one to five; Eureka with one to six; Point Loma with one to seven; Gunther Island with one to nine; San Mateo Point with one to ten; and Sausalito and Half Moon Bay with one to thirteen.

Differences of this sort have a very direct bearing on calculations with regard to the age of the mounds. Where the amount of ash is exceptionally high in proportion to the shell, it does not mean merely that the inhabitants burned more than the usual amount of wood; but it undoubtedly means that the mound was built up more slowly than others with a less amount of ash. The inhabitants, instead of depending to the usual extent on shellfish, lived more on vegetable foods which would leave no trace. The only thing to tell the tale would be the unusually high percentage of ash compared to shell. Therefore one cannot estimate the accumulation of shell in a mound of this sort at the same rate as in an average mound like Emeryville.

The puzzle of the age of the shellmounds requires for its solution every scrap of information bearing on the mounds. A knowledge of shellmound composition, of population, of artifacts, of skeletal remains, of environment, or of food alone will not solve the puzzle. The proper combination of all of these is necessary to gain the end.

Transmitted December 4, 1914.

TABLE 1
THE MAIN SHELLMOUND CONSTITUENTS IN AVERAGES OF THE PERCENTAGES IN THE SAMPLES FROM EACH MOUND

Mound	Fish remains	Other vertebrate remains	Shell	Charcoal	Ash	Rock	Residue
Sausalito .....	.008	.015	54.44	.055	4.21	23.5	17.77
Greenbrae .....	.008	.004	65.4	.108	12.73	8.9	12.61
San Rafael .....	.008	.....	53.93	.047	24.66	6.1	15.26
Carquinez .....	.01	.025	55.34	.175	26.5	3.8	14.2
Ellis Landing .....	.034	.043	69.43	.294	13.99	5.1	11.05
West Berkeley .....	.069	.069	52.53	.123	23.76	4.9	18.51
Emeryville .....	.186	.031	59.86	.237	13.47	8	18.26
Castro .....	.008	.076	25.99	.898	9.47	8.8	54.72
San Mateo .....	.005	.11	59.09	.173	11.2	18.5	10.98
San Mateo Point .....	.....	.185	58.5	.05	6.04	16.2	19.06
San Francisco .....	.1	.15	57	.02	15.9	1.4	25.43
Half Moon Bay .....	.003	.033	56.46	.01	4.19	5.2	34.06
Eureka .....	.01	.....	68.47	.21	12.08	.....	19.23
Gunther Island .....	.016	.077	15.62	.3	1.81	.88	81.29
Point Loma .....	.....	.....	28.94	.6	4.09	1.2	65.19
Average mound .....	.031	.055	52.07	.22	12.27	7.5	27.84
Average S. F. Bay mound .....	.04	.064	55.59	.198	14.72	9.6	19.8

TABLE 2
SHELLMOUND COMPOSITION IN PERCENTAGES OF MATERIAL DERIVED FROM ANIMAL
SOURCES, FROM COMBUSTION, AND FROM INORGANIC SOURCES

Mound	Animal	Combustion	Inorganic
Sausalito	55	4	41
Greenbrae	65	13	22
San Rafael	54	25	21
Carquinez	55	27	18
Ellis Landing	70	14	16
West Berkeley	53	24	23
Emeryville	60	14	26
Castro	26	10	64
San Mateo	59	11	30
San Mateo Point	59	6	35
San Francisco	57	16	27
Half Moon Bay	57	4	39
Eureka	69	12	19
Gunther Island	16	2	82
Point Loma	29	5	66
Average mound	52	13	35
Average S. F. Bay mound	56	15	29

TABLE 3
FISH REMAINS IN PERCENTAGES OF EACH SAMPLE

Depth	Sausalito	Greenbrae	San Rafael	Carquinez	Ellis Landing	West Berkeley	Emeryville	Castro	San Mateo	San Mateo Point	San Francisco	Half Moon Bay	Eureka	Gunther Island	Point Loma
.5							.01								
1	.02							.01				.01	.01	.05	
1.5					.02						.1				
2		.03				.01	2.11	.01						.05	
2.5														.01	
3				.02	.17		.01	.01	.01						
3.5	.01					.1									
4			.01												
4.5					.01										
5	.01					.05	.22	.01							
6		.01	.03		.04				.01						
6.5						.1									
7					.01		.02								
7															
8		.02	.01			.3	.05								
9							.02								
9.5							.01								
10					.05	.08	.08								
10.5							.01								
11					.02		.01								
12	.01					.01									
12.5															
13							.01								
14															
15.5							.02								
17					.02										
17.5															
19.5							.01								
Bottom							.9								
Bottom															
Bottom															
Bottom															
Average	.008	.008	.008	.01	.034	.089	.186	.008	.005		.1	.003	.01	.016	

TABLE 4
OTHER VERTEBRATE REMAINS IN PERCENTAGES OF EACH SAMPLE

Depth	Sausalito	Greenbrae	San Rafael	Carquines	Ellis Landing	West Berkeley	Emeryville	Castro	San Mateo	San Mateo Point	San Francisco	Half Moon Bay	Eureka	Gunther Island	Point Loma
.5	—	—	—	.08	—	—	.03	.37	—	.05	—	.12	—	.48	—
1	—	—	—	—	—	—	—	—	—	—	.15	—	—	—	—
1.5	—	—	—	—	.04	—	—	—	—	—	—	—	—	—	—
2	—	—	—	—	.05	.08	—	.01	—	—	—	—	—	.05	—
2.5	—	—	—	—	—	—	—	—	—	—	—	—	—	.01	—
3	—	—	—	.02	—	—	.01	—	.2	—	—	.01	—	—	—
3.5	—	—	—	—	—	.1	—	—	—	—	—	—	—	—	—
4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4.5	—	—	—	—	—	.1	—	—	—	—	—	—	—	—	—
5	.01	—	—	—	—	.01	.03	—	—	—	—	—	—	—	—
6	—	—	—	—	.1	—	—	—	.15	—	—	—	—	—	—
6.5	—	—	—	—	—	.15	—	—	—	—	—	—	—	—	—
7	—	—	—	—	.01	—	—	—	—	—	—	—	—	—	—
7	—	—	—	—	.03	—	—	—	—	—	—	—	—	—	—
8	—	—	—	—	—	—	.01	—	—	—	—	—	—	—	—
9	—	—	—	—	—	—	.01	—	—	—	—	—	—	—	—
9.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10	—	—	—	—	.1	.11	.08	—	—	—	—	—	—	—	—
10.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11	—	—	—	—	.1	—	—	—	—	—	—	—	—	—	—
12	.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13	—	—	—	—	—	—	.01	—	—	—	—	—	—	—	—
14	—	.03	—	—	—	—	.02	—	.09	—	—	—	—	—	—
15.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
17.5	—	—	—	—	—	—	.01	—	—	—	—	—	—	—	—
19.5	—	—	—	—	—	—	.02	—	—	—	—	—	—	—	—
Bottom	—	—	—	—	—	—	.03	—	—	—	—	—	—	—	—
Bottom	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bottom	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bottom	—	—	—	—	—	—	.12	—	—	—	—	—	—	—	—
Average	.015	.004	—	.025	.043	.069	.081	.076	.11	.185	.15	.033	—	.077	—

TABLE 5
SHELL IN PERCENTAGES OF EACH SAMPLE

Depth	Sausalito	Greenbrae	San Rafael	Carquines	Ellis Landing	West Berkeley	Emeryville	Castro	San Mateo	San Mateo Point	San Francisco	Half Moon Bay	Eureka	Gunther Island	Point Loma
.5															
1	58.96	50.14	48.41	74.37			53.44	19.4		55.87		78.08	68.47	9.07	28.94
1					70.6		63.63			61.13	57	65.95			
1.5					73.13	51.61		17.9						4.18	
2		71.88	49.37											29.11	
2.5					72.94		75.56	25.86	61.05			63.22		3	
3				26.3		54.68									
3.5	74.17							30.01							
4		65.22	49.81												
4.5					56.06	72.3									
5	55.15					48.06	72.15	36.78							
6		70.77	78.14		90.8				65.23			18.6		11.99	
6.5						53.86								28.15	
7					89.9		68.38								
7					55.82										
8	61.39	65.12	50.6			57.39	74.7		55.37					23.86	
9							53.9								
9.5							69.98								
10		67.9	47.23		64.61	53.75	72.98								
10.5							71.82								
11					63.98		76.36								
12	48.6	63.91				28.09									
12.5	28.37						40.98								
13															
14		68.27							64.7						
15															
15.5							52.92								
17					56.5										
17.5							43.75								
19.5							45.88								
Bottom							43.49								
Bottom							62.8								
Bottom							61.55								
Bottom							33.13								
Average	54.44	65.4	53.93	55.34	69.43	52.53	59.86	25.99	59.09	58.5	57	56.46	68.47	15.62	28.94

TABLE 6
CHARCOAL IN PERCENTAGES OF EACH SAMPLE

Depth	Sausalito	Greenbrae	San Rafael	Carquinez	Ellis Landing	West Berkeley	Emeryville	Castro	San Mateo Point	San Francisco	Half Moon Bay	Eureka	Gunter Island	Point Loma
.5	.12	.01	.02	.3			.01	.54	.1		.02	.21	.2	.6
1											.01			
1.5					.01		.05			.02				
2		.25	.07		.1			.41					.01	
2.5													.1	
3				.05	1.5		.02	1.84	.4		.01		.5	
3.5	.09													
4	.17		.06		.75	.01		.7						
4.5						.01								
5	.01				.1	.01	.4	1	.11				.24	
6	.14		.1			.2							.65	
6.5					.22									
7					.03									
7						.35	.6		.12				.4	
8	.1	.02	.01				.01							
9														
9.5														
10		.08	.02		.22	.41	1.2							
10.5							.02							
11					.01									
12	.01	.17												
12.5														
13							.01							
13		.02					.22		.06					
14														
15.5														
17							.02							
17.5							.02							
19.5							.01							
Bottom							.7							
Bottom							.6							
Bottom							.32							
Bottom							.31							
Average	.055	.108	.047	.175	.294	.123	.237	.898	.173	.02	.01	.21	.3	.6

TABLE 7
ASH IN PERCENTAGES OF EACH SAMPLE

Depth	Sausalito	Greenbrae	San Rafael	Carquinez	Ellis Landing	West Berkeley	Emeryville	Castro	San Mateo	San Mateo Point	San Francisco	Half Moon Bay	Eureka	Gunther Island	Point Loma
.5	19.84	19.84	31.72	15.6	12.84	7.19	16.48	9.04	15.9	2.91	12.08	4.09	9	4.77	4.09
1	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
1.5	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
2	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
2.5	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
3	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
3.5	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
4	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
4.5	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
5	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
5.14	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
6	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
6.5	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
7	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
7	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
8	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
8	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
9	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
9.5	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
10	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
10.5	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
11	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
11.85	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
12	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
12.5	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
13	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
14	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
14	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
15.5	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
17	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
17.5	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
19.5	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
Bottom	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
Bottom	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
Bottom	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
Bottom	9.86	32.57	37.4	10.11	7.79	5.53	19.31	7.27	13	5.19	4.64	4.77	2.81	4.21	4.09
Average	4.21	12.73	24.66	26.5	13.99	23.76	18.47	9.47	11.2	6.04	15.9	4.19	12.08	1.81	4.09

TABLE 8
ROCK IN PERCENTAGES OF EACH SAMPLE

Depth	Suazo- lito	Green- brae	San Rafael	Car- quines	Ellis Landing	West Berkeley	Emery- ville	Castro	San Mateo	San Mateo Point	San Fran- cisco	Half Moon Bay	Eureka	Gunther Island	Point Loma
.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	26.5	.....	.....	3.8	.....	.....	.....	13	.....	7.3	.....	1.4	.....	.6	1.2
1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.9	.....	.....	.....
1.5	.....	.....	.....	.....	.9	.....	3.5	.....	.....	.....	1.4	.....	.....	.....	.....
2	.....	9.2	1.6	.....	8.8	6.2	.....	2.4	.....	.....	.....	.....	.....	.1	.....
2.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.1	.....
3	.....	.....	.....	3.7	12.7	.....	3.8	21.3	14.8	.....	.....	5.6	.....	.1	.....
3.5	16.9	.....	.....	.....	.....	5.8	.....	5	.....	.....	.....	.....	.....	.....	.....
4	.....	6.5	5.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4.5	.....	.....	.....	.....	5.1	5.4	.....	.....	.....	.....	.....	.....	.....	.....	.....
5	25.5	.....	.....	.....	.....	6.4	2.1	2.4	.....	.....	.....	.....	.....	.....	.....
6	.....	7.1	4.1	.....	.4	.....	.....	.....	15.2	.....	.....	10.1	.....	.1	.....
6.5	.....	.....	.....	.....	.....	5.6	.....	.....	.....	.....	.....	.....	.....	5.15	.....
7	.....	.....	.....	.....	1.1	.....	5.2	.....	.....	.....	.....	.....	.....	.....	.....
7	.....	.....	.....	.....	6.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8	24	4.7	6.8	.....	.....	3.1	3.4	.....	15.2	.....	.....	.....	.....	.....	.....
9	.....	.....	.....	.....	.....	.....	3.9	.....	.....	.....	.....	.....	.....	.....	.....
9.5	.....	.....	.....	.....	.....	.....	2.1	.....	.....	.....	.....	.....	.....	.....	.....
10	.....	7.9	13.8	.....	6.8	3.3	.8	.....	.....	.....	.....	.....	.....	.....	.....
10.5	.....	.....	.....	.....	.....	.....	3.7	.....	.....	.....	.....	.....	.....	.....	.....
11	.....	.....	.....	.....	4.3	.....	7.1	.....	.....	.....	.....	.....	.....	.....	.....
12	27.1	11.4	.....	.....	.....	3.7	.....	.....	.....	.....	.....	.....	.....	.....	.....
12.5	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
13	.....	.....	.....	.....	.....	.....	15.2	.....	.....	.....	.....	.....	.....	.....	.....
14	.....	12.6	.....	.....	.....	.....	.....	.....	28.6	.....	.....	.....	.....	.....	.....
15	.....	.....	.....	.....	.....	.....	8.3	.....	.....	.....	.....	.....	.....	.....	.....
17	.....	.....	.....	.....	5.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
17.5	.....	.....	.....	.....	.....	.....	29.7	.....	.....	.....	.....	.....	.....	.....	.....
19.5	.....	.....	.....	.....	.....	.....	22.3	.....	.....	.....	.....	.....	.....	.....	.....
Bottom	.....	.....	.....	.....	.....	.....	14.4	.....	.....	.....	.....	.....	.....	.....	.....
Bottom	.....	.....	.....	.....	.....	.....	1.1	.....	.....	.....	.....	.....	.....	.....	.....
Bottom	.....	.....	.....	.....	.....	.....	3.8	.....	.....	.....	.....	.....	.....	.....	.....
Bottom	.....	.....	.....	.....	.....	.....	18.5	.....	.....	.....	.....	.....	.....	.....	.....
Average	23.5	8.9	6.1	3.8	6.1	4.9	8	8.8	18.5	16.2	1.4	5.2	.....	.88	1.2

TABLE 9
RESIDUE IN PERCENTAGES OF EACH SAMPLE

Depth	Sausalito	Greenbrae	San Rafael	Carquines	Ellis Landing	West Berkeley	Emeryville	Castro	San Mateo	San Mateo Point	San Francisco	Half Moon Bay	Eureka	Gunther Island	Point Loma
5	14.4	18.51	15.05	5.9	.....	.....	35.93	50.18	.....	15.74	.....	17.46	19.23	86.7	65.19
1	15.59	.....	23.92	.....	.....	22.88	25.43	25.5	.....	.....	.....
1.5	7.81	28.1	.....	73.74	.....	.....	.....	.....	.....	95.61	.....
2	8.78	16.39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	70.67	.....
2.5	5.96	.....	1.39	48.71	11.54	.....	.....	25.97	.....	96.4	.....
3	22.5	.....	17.01	.....	60	.....	.....	.....	.....	.....	.....	.....
3.5	8.21	.....	.....	.....	.....	8.69	.....	.....	.....	.....	.....	.....	.....	.....	.....
4	16.23	15.25	.....	11.61	16.28	15.07	46.01	7.6	.....	.....	.....	.....	.....	.....
4.5	14.18	.....	.....	.....	5.67	.....	.....	.....	.....	.....	.....	67.3	.....	82.9	.....
5	9.2	6.07	.....	.....	13.18	.....	.....	.....	.....	.....	.....	.....	63.24	.....
6	1.9	.....	.....	.....	.....	.....	.....	.....	.....
6.5	8.34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7	14.26	.....	.....	.....	.....	.....	.....	.....	.....	71.53	.....
7	15.15	15.05	.....	16.07	.....	.....	.....	.....	.....	.....
8	9.6	14.89	16.52	.....	.....	.....	14.05	.....	.....	.....	.....	.....	.....	.....	.....
9	2.71	.....	.....	.....	.....	.....	.....	.....	.....
9.5	9.9	18.88	12.98	.....	.....	.....	.....	.....	.....	.....	.....
10	9.69	22.3	.....	.....	.....	15.92	.....	.....	.....	.....	.....	.....	.....	.....
10.5	18.27	.....	9.92	.....	.....	.....	.....	.....	.....	.....	.....
11	35.81	.....	.....	.....	.....	.....	.....	.....	.....	.....
12	12.35	9.78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12.5	47.9	.....	.....	.....	.....	.....	40.42	.....	.....	.....	.....	.....	.....	.....	.....
13
13
14	13.8	.....	.....	.....	.....	32	.....	8.71	.....	.....	.....	.....	.....	.....
15.5
17	18.18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
17	19.29	.....	.....	.....	.....	.....	.....	.....	.....
17.5	22.48	.....	.....	.....	.....	.....	.....	.....	.....
19.5	23.81	.....	.....	.....	.....	.....	.....	.....	.....
Bottom	18.98	.....	.....	.....	.....	.....	.....	.....	.....
Bottom	15.89	.....	.....	.....	.....	.....	.....	.....	.....
Bottom	26.45	.....	.....	.....	.....	.....	.....	.....	.....
Bottom
Average	17.77	12.61	15.26	14.2	11.05	18.51	18.26	54.72	10.98	19.06	25.43	34.06	19.23	81.29	65.19

TABLE 10
AVERAGE SPECIFIC COMPOSITION (IN PERCENTAGES)* OF THE SHELL FROM SAN FRANCISCO BAY MOUNDS

	Gausalito	Greenbrae	San Rafael	Carpenter	Ellis Landing	West Berkeley	Berkeleyville	Castro	San Mateo	San Mateo Point	San Francisco	Average
<i>Mytilus edulis</i>	24	47	44	68	35	41	35	X	33	34	19	36
<i>Macoma nasuta</i>	23	1	X	X	36	4	18	Z	X	...	12	9
<i>Ostrea lurida</i>	X	1	X	Y	X	19	8	3	31	22	X	8
<i>Barnacles (Balanus)</i>	3	3	5	1	1	2	2	Y	3	5	6	3
<i>Mytilus californianus</i>	2	Z	Z	...	...	Z	Z	Y	Y	...	18	1
<i>Schizothaerus nuttallii</i>	1	Z	Z	...	Z	...	Z	...	...	...	3	X
<i>Cerithidea californica</i> .....	...	...	...	...	Z	...	Z	9	...	...	...	X
<i>Thais lamellosa</i>	2	...	Z	...	X	Z	Z	...	...	...	...	X
<i>Cardium corbis</i>	X	X	...	...	Z	X	X	...	X	...	Y	X
<i>Crab shell</i>	X	Y	...	Y	Y	Y	Y	2	...	Y	X	Y
<i>Pholas pacificus</i> .....	...	...	...	...	X	X	X	3	X	...	...	Y
<i>Paphia staminea</i>	X	...	...	...	Y	...	Y	...	...	...	X	Y
<i>Littorina scutulata</i>	Y	...	...	...	X	Y	Y	...	...	...	...	Y
<i>Phytia myosotis</i>	Y	Y	Y	...	Y	Y	Y	...	Y	...	Y	Y
<i>Zirphaea crispata</i> .....	...	...	...	...	...	...	Y	...	...	...	...	Y
<i>Acmaea pelta</i> .....	...	...	...	...	Z	...	Y	...	...	...	...	Y
Unidentified shell	41	46	48	29	25	32	34	80	31	37	39	38

* Where the amount of a species is less than one per cent, but more than one-tenth of one per cent, an X has been substituted for the actual figure; where less than one-tenth of one per cent, a Y has been substituted. Z represents the occurrence of a species in a specimen other than one of the eighty-four analyzed for this paper.

TABLE 11

AVERAGE SPECIFIC COMPOSITION (IN PERCENTAGES)* OF THE SHELL FROM
HALF MOON BAY AND HUMBOLDT BAY MOUNDS

Species	Half Moon Bay	Eureka	Gunther Island
<i>Mytilus edulis</i>	X	58	X
Barnacles (<i>Balanus</i>)	X	3	X
Crab shell	Y	....	Y
<i>Cardium corbis</i>	Y	....	14
<i>Paphia staminea</i>	1	....	12
<i>Schizothaerus nuttallii</i>	X	2	23
<i>Macoma nasuta</i> .....	....	3	17
<i>Mytilus californianus</i>	25	....	....
<i>Littorina scutulata</i>	Y	....	....
Sea urchin	X	....	Y
<i>Tegula funebris</i>	35	....	....
<i>Tegula brunnea</i>	X	....	....
Chitons	X	....	....
Limpets	Y	....	....
<i>Platyodon cancellatus</i>	Y	....	....
<i>Pholadidea penita</i>	Y	....	....
<i>Saxidomus nuttallii</i>	X	....	....
<i>Crepidula adunca</i>	Y	....	....
<i>Saxidomus giganteus</i> .....	....	....	1
<i>Cardium californiense</i> .....	....	....	Y
<i>Paphia tenerrima</i> .....	....	....	1
<i>Zirphaea crispata</i> .....	....	....	Y
Unidentified shell	32	34	28

* Where the amount of a species is less than one per cent, but more than one-tenth of one per cent, an X has been substituted for the actual figure; where less than one-tenth of one per cent a Y has been substituted.

TABLE 12
OCCURRENCE OF *Phytia myosotis* (indicated by x)

Depth	Sausalito	Greenbrae	San Rafael	Ellis Landing	West Berkeley	Emeryville	San Mateo	San Francisco
.5	x	—	....	....	—	....	....
1	x	....	....	....	....	....	....	....
1.5	x	....	—	....	x
2	x	x	x	x	....	....	....
3	x	....	x	x	....
3.5	—	x	....	....	....
4	—	—
4.5	x	—	....	....	....
5	—	—	x	....	....
6	—	—	—	x	....
6.5	x	....	....	....
7	—	x	....	....
7	x	....	....	....	....
8	—	x	—	....	—	—	—	....
9	—
9.5	x	....	....
10	—	—	x	x	—	....	....
10.5	—
11	x	....	x	....	....
12	—	—	—
12.5	—
13	—
14	x	....	....	....	....	x	....
15.5	x	....	....
17	x	....	....	....	....
17.5	—
19.5	x	....	....
Bottom	—
Bottom	x	....	....
Bottom	—
Bottom	—

TABLES 13 to 22

Tables 13 to 22 show the relative abundance in each sample of the species included in the table. This relative abundance is expressed in percentages of the sum of the species.

TABLE 13

ELLIS LANDING

Depth	<i>Mytilus edulis</i>	<i>Macoma nasuta</i>
1.5	43	57
2	55	45
3	98	2
4.5	87	13
6	2	98
7	7	93
7	85	15
10	53	47
11	91	9
17	96	4

TABLE 14

SAUSALITO

Depth	<i>Mytilus edulis</i>	<i>Macoma nasuta</i>
1	41	59
3.5	37	63
5	38	62
8	79	21
12	69	31
12.5	57	43

TABLE 15

EMERYVILLE

Depth	<i>Mytilus edulis</i>	<i>Macoma nasuta</i>	<i>Ostrea lurida</i>
.5	74	14	12
1.5	62	25	13
3	43	49	8
5	87	6	7
7	49	46	5
8	42	51	7
9	79	18	3
9.5	57	34	9
10	40	56	4
10.5	80	19	1
11	50	47	3
13	81	13	6
15.5	71	18	11
17.5	71	19	10
19.5	58	22	20
Bottom	34	—	66
Bottom	31	5	64
Bottom	42	4	54
Bottom	63	—	37

TABLE 16

CASTRO

Depth	<i>Mytilus edulis</i>	<i>Cerithidea californica</i>	<i>Ostrea lurida</i>
1	6	65	29
2	10	78	12
3	10	81	9
4	6	61	33
5	1	84	15

TABLE 17

SAN MATEO

Depth	<i>Mytilus edulis</i>	<i>Ostrea lurida</i>
3	62	38
6	41	59
8	54	46
14	50	50

TABLE 18

HALF MOON BAY

Depth	<i>Tegula funebris</i>	<i>Mytilus californianus</i>
1	78	22
1	59	41
3	32	68
6	28	72

TABLE 19

GUNTHER ISLAND

Depth	<i>Schisothaerus nuttallii</i>	<i>Macoma nasuta</i>	<i>Cardium corbis</i>	<i>Paphia staminea</i>
1	1	71	—	28
2	33	67	—	—
2.5	54	7	11	28
6	58	28	14	—
6.5	10	30	42	18
8	45	34	16	5

TABLE 20

WEST BERKELEY

Depth	<i>Mytilus edulis</i>	<i>Macoma nasuta</i>	<i>Ostrea lurida</i>
2	73	3	24
3.5	74	2	24
4.5	57	26	17
5	77	2	21
6.5	60	2	38
8	58	1	41
10	54	1	45
12	73	—	27

TABLE 21
GREENBRAE

Depth	<i>Mytilus edulis</i>	<i>Macoma nasuta</i>	<i>Ostrea lurida</i>
.5	81	13	6
2	96	4	—
4	96	1	3
6	91	9	—
8	97	2	1
10	99	1	—
12	99	—	1
14	90	1	9

TABLE 22
SAN RAFAEL

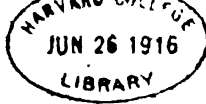
Depth	<i>Mytilus edulis</i>	<i>Macoma nasuta</i>	<i>Ostrea lurida</i>
.5	97	3	—
2	99	1	—
4	99	—	1
6	99	—	1
8	95	2	3
10	97	2	1

TABLE 23

MUSSEL SHELL (*Mytilus edulis*) CAUGHT BY THE FINE, OR TWO-MILLIMETER, SCREEN
IN PERCENTAGES OF THE AMOUNT OF ALL MUSSEL CAUGHT BY SCREENS

Depth	Sausalito	Greenbrae	San Rafael	Ellis Landing	Emeryville
.5	....	77	97	....	90
1	88	....	....	....	....
1.5	....	....	....	86	62
2	....	65	86	61	....
3	....	....	....	41	55
3.5	68	....	....	....	....
4	....	82	91	....	....
4.5	....	....	....	80	....
5	92	....	....	....	66
6	....	70	67	63	....
7	....	....	....	54	71
7	....	....	....	82	....
8	79	76	86	....	67
9	....	....	....	....	75
9.5	....	....	....	....	67
10	....	71	95	71	62
10.5	....	....	....	....	85
11	....	....	....	90	73
12	93	83	....	....	....
12.5	91	....	....	....	....
13	....	....	....	....	96
14	....	81	....	....	....
15.5	....	....	....	....	88
17	87
17.5	92
19.5	90
Bottom	84
Bottom	83
Bottom	95
Bottom	97
Average	85	76	87	71	79





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UNIVERSITY OF CALIFORNIA PUBLICATIONS
IN
AMERICAN ARCHAEOLOGY AND ETHNOLOGY



Vol. 12, No. 2, pp. 31-69

June 15, 1916

CALIFORNIA PLACE NAMES OF
INDIAN ORIGIN

BY

A. L. KROEBER

UNIVERSITY OF CALIFORNIA PRESS
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CALIFORNIA PLACE NAMES OF
INDIAN ORIGIN

BY
A. L. KROEBER

The origin of many place-names in California which are of Indian derivation is very imperfectly known, and has often been thoroughly misunderstood. There is no subject of information in which rumor and uncritical tradition hold fuller sway than in this field. The best literature dealing with the topic—and it is one of widespread interest—contains more errors than truths. The present compilation, in spite of probably embodying numerous misunderstandings and offering only doubt or ignorance on other points, is at least an attempt to approach the inquiry critically. It is based on fifteen years of acquaintance, from the anthropological side, with most of the Indian tribes of the state. In the course of the studies made in this period, geographical and linguistic data were accumulated, which, while not gathered for the present purpose, serve to illuminate, even though often only negatively, the origin and meaning of many place-names adopted or reputed to have been taken from the natives. Authorities have been cited where they were available and known. If they are not given in more cases, it is because unpublished notes of the writer are in all such instances the source of information.

The present state of knowledge as to place-names derived from the Indians is illustrated by the following example. There are nine counties in California, Colusa, Modoc, Mono, Napa, Shasta, Tehama, Tuolumne, Yolo, and Yuba, whose names are demonstrably or almost demonstrably of Indian origin, and two others, Inyo and Siskiyou, that presumably are also Indian. Of these eleven, Maslin in his officially authorized list, cited below, gives two, Mono and Yuba, as being Spanish; he adds Solano and Marin, of which the first is certainly and

the latter probably Spanish, as being Indian; and the only etymologies which he mentions—those for Modoc, Napa, Shasta, Tuolumne, and Yolo—are all either positively erroneous or unverified. The lists by other authors, which include the names of less widely known localities, are as a rule even more unreliable. The prevalent inclination has been to base explanations of place-names of Indian origin not on knowledge, or where certainty is unattainable on an effort at investigation, but on vague though positively stated conjectures of what such names might have meant, or on naive fancies of what would have been picturesque and romantic designations if the unromantic Indian had used them. It is therefore a genuine pleasure to mention one notable and recent exception, the *Spanish and Indian Place Names of California* of Nellie Van de Grift Sanchez, a really valuable work which unites honest endeavor and historical discrimination with taste and pleasing presentation.¹

To avoid an array of foot-notes, most references have been cited in the text in a simplified form, which will be clear upon consultation of the following list.

MASLIN: Prentiss Maslin. I have not seen this work, printed for or by the State of California, in the original. It may be more accessible to most readers as reprinted as an appendix to John S. McGroarty's *California*, 1911, pages 311 and following. As the names follow one another in alphabetical order, page references are unnecessary.

GANNETT: Henry Gannett, "The Origin of Certain Place-Names in the United States." U. S. Geological Survey, Bulletin 197, 1902. As this is also an alphabetic list, page references have again been omitted.

BAILEY: G. E. Bailey, "History and Origin of California Names and Places," in several instalments (the pages indicated in the table of contents for the volume are in part erroneous), in volume 44 of the *Overland Monthly*, San Francisco, July to December, 1904. The Indian section is arranged alphabetically and begins on page 564.

POWERS: Stephen Powers, "Tribes of California," being *Contributions to North American Ethnology*, volume 3, Washington, 1877.

MERRIAM: C. Hart Merriam, "Distribution and Classification of the Mewan Stock of California," *American Anthropologist*, new series, volume 9, pages 338-357, 1907.

BARRETT, POMO: S. A. Barrett, "The Ethno-geography of the Pomo and Neighboring Indians," being pages 1 to 332 of volume 6 of the present series of publications. Page citations follow the title, in references in the present text made to this and the following works.

BARRETT, MIWOK: S. A. Barrett, "The Geography and Dialects of the Miwok Indians," pages 333 to 368 of volume 6 of the same series of publications.

¹ San Francisco, A. M. Robertson, 1914.

KROEBER, MIWOK: A. L. Kroeber, "On the Evidences of the Occupation of Certain Regions by the Miwok Indians," pages 369 to 380 of the same volume as the last.

KROEBER, SHOSHONEAN: The same, "Shoshonean Dialects of California," volume 4, pages 65 to 165, also of the present series.

KROEBER, CAHUILLA: The same, "Ethnography of the Cahuilla Indians," pages 29 to 68 of volume 8 of the present series.

Several important original sources, such as Hugo Reid in the *Los Angeles Star* of 1852, and Alexander Taylor in the *California Farmer* of 1860 following, are referred to or partly extracted, so far as Indian place-names are concerned, in the above works.

The number of California place-names taken from the several California Indian languages varies greatly. In general, Spanish occupation has been more favorable than American settlement to preservation of native designations of localities. The distribution of positively and probably identified names, according to their source from the various families of speech, is as follows:

Shoshonean	33	Maidu	7
Chumash	28	Yuki	6
Miwok	26	Athabaskan	4
Wintun	25	Salinan	2
Yurok	16	Shastan	2
Yuman	15	Washo	1
Pomo	13	Lutuami	1
Yokuts	9	Wiyot	1
Costanoan	7		

Karok, Chimariko, Yana, and Esselen have furnished no terms to modern California geography.

Such obviously imported names of Indian origin as Cherokee, Seneca, Mohawk, Oneida, Tioga, Sequoya, and Maricopa, have not been discussed in the present account.

THE NAMES

Acalanes, a land grant in Contra Costa County, in the vicinity of the present town of Lafayette, is probably named from a Costanoan Indian village of the vicinity, Akalan or something similar, which the Spaniards dignified into the Acalanes "tribe." The ending occurs on many Costanoan village names: Sacla-n, Olho-n, Bolbo-n, Mutsu-n, etc.

Aguanga, in Riverside County, has no connection with Spanish *agua*, "water," but is a place or village name of the Shoshonean

Luiſeño Indians. The meaning is not known, but the word is derived from the place-name proper, Awa, plus the Indian locative case ending *-nga* (Kroeber, *Shoshonean*, 147).

Ahpah creek, entering the Klamath River from the south just above Blue Creek, in Humboldt County, is named from its Yurok designation, O'po.

Ahwahnee, in Madera County, is situated forty miles from the original Awani, which was the Southern Miwok name of the largest village in Yosemite Valley and therefore of the valley itself. The Indian name of American Ahwahnee was Wasama (Merriam, 346, and Barrett, *Miwok*, 343). It is of interest, though perhaps of no bearing in the present connection, that a similar name, Awaniwi, appears among the far-distant but related Coast Miwok Indians of Marin County as the appellation of a former village in the northern part of the city of San Rafael.

Algomah, in Siskiyou County, is of unknown origin, and suggests coinage, or borrowing from the Eastern place-name Algoma, also coined, given by Gannett.

Algootoon, which does not appear on most maps, is given by Bailey as another name of Lakeview, Riverside County, and as derived from Algoot, the Saboba (*i.e.*, Luiſeño) hero who killed "Taquitich" (see Tahquitz). The name Algut sounds Luiſeño, but does not appear in the Sparkman Luiſeño dictionary in possession of the University of California. It is probably a Spanish spelling of Alwut, "raven," who is one of the most important traditional and religious heroes of the Luiſeño, and into whom Tukupar, "Sky," turned himself when he went to visit Takwish on Mount San Jacinto preparatory to killing him.² This etymology, however, does not account for the last syllable of "Algootoon." Were it not that guesses are already more numerous in these matters than knowledge, the writer would be tempted to hazard the suggestion of a possible American corruption from Spanish *algodon*, "cotton."

Aloma mountain, in Ventura County, has an unidentified name.

Anacapa, the name of the island off Ventura County, is absurdly given by Bailey, page 360, as Spanish for "Cape Ann." The Chumash original is Anyapah, recorded by Vancouver as Enneepah, misspelled Enecapah by the map engraver, and then Spanicized into Anacapa (Sanchez, 351, *ſide* George Davidson).

² Journ. Am. Folk Lore, xix, 318, 1906

Anapamu, the name of a street in Santa Barbara city, is said locally to be of Indian origin³ and has a good Chumash ring.

Aptos, in Santa Cruz County, is given by Bailey as the name of a "tribe." If this is a fact, the village was Costanoan; but the derivation from Spanish *apto* seems not impossible.

Arcata, in Humboldt County, is said by Gannett to mean "sunny spot" in Indian. Such a place-name would be very unusual in any California Indian language, nor does the sound suggest a word in the Wiyot language, which is the idiom spoken in the vicinity.

Aukum, in Eldorado County, is, if Indian, which seems doubtful, of Northern Miwok origin.

Ausaymas, a land grant in Santa Clara and San Benito counties, is obviously named after the Ausaymas or Ansaymas Indians mentioned in Arroyo de la Cuesta's *Phrase Book of the Mutsun Language* as speaking a dialect somewhat different from that of the Mutsunes. Evidently Ausayma and Mutsun were both Costanoan villages near Mission San Juan Bautista.

Avawatz mountains, north of Ludlow in San Bernardino County, have a name that sounds like good Shoshonean. Southern Paiute or Serrano tribes lived in the neighborhood.

Azusa, or *Asuza*, in Los Angeles County, was a Gabrielino Shoshonean village, *Asuksa-gna* in Gabrielino⁴ or *Ashuksha-vit* in the neighboring Serrano⁵ dialect. According to a correspondent,⁶ the word means "skunk hill."

Bally, or *Bully*, mountain, in Shasta County near the Trinity line, has its name from Wintun *boli* (o like English "aw"), "spirit." See Bully Choop and Yallo Bally. There is also a Bully Hill in Shasta County between the Pit and McCloud rivers.

Beegum and *Beegum Butte*, in Tehama County, are names of unidentified origin.

Bohemotash mountain, in Shasta County, bears a northern Wintun name. *Bohem* is "large," but the second part of the word is not known.

³ J. P. Harrington, *American Anthropologist*, n. s. XIII, 725, 1911.

⁴ Hugo Reid, originally in the *Los Angeles Star*, quoted by A. Taylor, *California Farmer*, XIV, 1861, and by Hoffman, *Bulletin Essex Institute*, XVII, 1885.

⁵ Present series, VIII, 39, 1908.

⁶ Mr. C. C. Baker of Azusa, quoting Mr. W. A. Dalton, whose godfather was Hugo Reid: Azuncasabit, "skunk hill," the skunks being of the small or polecat variety, and the name applied by the Indians to the hill, east of the present town, where the ranch house of the grant stood. *As-bit* is the regular locative ending in Serrano, the literal meaning was probably "skunk place" rather than "hill."

Bolbones, or more fully Arroyo de las Nueces y Bolbones, a grant in Contra Costa County, probably derives its name from a village whose inhabitants were called Volvon, Bolbon, and Bulbones by the Spaniards. See Bancroft, *Native Races*, I, 453.

Bolinas, in Marin County, is said by Sanchez, 228, 355, to be probably an alteration of Los Baulines, a grant name, based in all likelihood on an Indian geographical designation. This seems reasonable. The division involved would be the Coast Miwok, and the native word probably Wauli-n.

Bully Choop, or *Bally Chup*, mountain, between Shasta and Trinity counties, is apparently from Wintun *boli*, "spirit." The meaning of *chup* is not known. See Bally and Yallo Bally.

Buriburi, a land grant in San Mateo County, is a name of unknown source. The grant is near San Bruno, so that the Costanoan Indians on it would have been attached to Mission Dolores in San Francisco. Urebure occurs as the name of one of the many rancherias formerly existing in the vicinity of Mission Dolores.⁷

Cahto, in Mendocino County, is in Athabascan territory and has come to be used, in the form *Kato*, for an Athabascan tribe or division, but is a Pomo word, meaning "lake."⁸ The Bailey definition of "quicksand," from *cah*, "water," and *to*, "mush," is unproved; although *ka* and *to* separately have this meaning in Pomo, and the etymology is repeated in the meaning cited in Barrett (*Pomo*, 262), for Bida-to, "mush-stream" (also, it is said, on account of the presence of quicksand), the Northern Pomo name of a Coast Yuki village at the mouth of Ten Mile River in the same part of Mendocino County. Cahto Creek in southeastern Humboldt County is probably the same name as Cahto in northern Mendocino.

Cahuenga pass and peak, in Los Angeles County, are undoubtedly named from some Gabrielino Shoshonean word, as shown by the locative ending -nga.

Cahuilla, often written Coahuila, but always pronounced "Kawia" and never "Kwawila," is the name of a Shoshonean tribe, or rather dialect group, located in San Geronimo Pass, the Colorado desert, and the vicinity of the present Cahuilla reservation in Riverside County. The name, ever since Reid, an excellent authority, has been said to mean "master," but the author has never found an Indian to cor-

⁷ Bancroft, *Native Races*, I, 453.

⁸ Goddard, present series, v, 67, 1909; Powers, 150.

roborate this interpretation, or to admit the word as being anything else than Spanish. There is no connection with Kaweah.

Calleguas, in Ventura County, is derived from Chumash *Kayiwüsh*, "my head," the name of a rancharia.

Calpella, in Mendocino County, according to Barrett, *Pomo*, 143, is named after Kalpela, the chief of the former Northern Pomo village of Chomchadila, situated "on the mesa just south of the town of Calpella." Kalpela's name⁹ "was given to his people, and was applied by the whites in a general way to all of the Indians living in Redwood Valley. . . . The late Mr. A. E. Sherwood is authority for the statement that 'Cal-pa-lau' signifies 'mussel or shellfish bearer,'"—whence Bailey's notice is apparently derived. "Mussel" is *khal*, *hal*, in Northern Pomo.

Camulos, in Ventura County, is named from an Indian village Kamulus or Kamulas.¹⁰ This territory has usually been considered Chumash, but was more likely Shoshonean; it is, however, probable that Kamulas was its Chumash name; at any rate, the etymology in Chumash is *my-mulus*, *mulus* being an edible fruit.

Capay, a land grant in Glenn and Tehama counties, and another in Yolo County, the latter surviving in modern nomenclature as Capay Valley, are named from Southern Wintun (Patwin) *kapai*, "stream."

Carquinez straits, in San Francisco Bay, are named from a Southern Wintun "tribe" or village, Carquin or Karkin.

Caslamayomi, a land grant in Sonoma County, seems Indian, especially on account of its ending, *-yomi* or *-yome*, which means "place" both in Southern Pomo and Coast Miwok.

Castac Lake, in Tejon Pass in Kern County, and Castac Creek in Los Angeles County, are named from a Shoshonean village, situated near the mouth of the stream, and called by the neighboring Chumash *Kashtük* (the *ü* unrounded), "my eyes" (dual), or "our eye." A frequented Indian trail led from the village up the stream to the lake and thence into the San Joaquin Valley—whence probably the application of the name to the two localities. The Shoshonean Kitanemuk or Serrano of the vicinity of the lake call this Auvapya, and the Yokuts of the San Joaquin Valley Sasau. Both words mean "at the eye." The Castac grant extended from Castac Lake north into the San Joaquin Valley.

⁹ Recited in Kroeber, Shoshonean, 152.

¹⁰ Handbook of American Indians, Bur. Am. Ethn. Bull. 30, part 1, 649.

Catacula, in Napa County, is a name of unknown origin. The grant lay in Wintun or Wappo territory.

Caymus grant in Napa County is named for the Yukian Wappo village of Kaimus, derivation unknown, formerly on the site of what is now Yountville (Barrett, *Pomo*, 268).

Cayucos, in San Luis Obispo County, means "boats" or "skiffs" in South American Spanish, according to the dictionaries, while Cayuca, a form of the name that also appears, denotes "head" in Cuban Spanish.

Chagoopa plateau and creek, southwest of Mount Whitney, are in Tulare County. The meaning is unknown, but the name is almost certainly a Mono word. A familiar Shoshonean noun ending *-pa* appears, as also in Ivanpah, Hanaupah, Nopah.

Chanchelulla mountain, in Trinity County, also appearing on maps as Chauchetulla and Chenche Lulla, seems to derive its name from a Wintun source, but the etymology is unknown.

Chemehuevi valley and mountains, in eastern San Bernardino County, are named after the Chemehuevi tribe, an offshoot of the Southern Paiute. The meaning of their name is unknown, and its source is also not certain, although the Mohave appear to use it not only of the Chemehuevi but of all Paiute divisions, and may have originated the term.

Chimiles, a land grant in Napa County, between Vacaville and Napa city, bears a name of unidentified but possibly Indian origin.

Choenimne mountain, in Fresno County, derives its name from the Yokuts tribe of the Choenimni, who lived on Kings River near the mountain.

Cholame, in San Luis Obispo County, is a name of Salinan Indian derivation. Cholam, more exactly Tc'ola'M,—also given as Teo'alam-tram, "Cholam houses" or "Cholam village,"—was a rancheria near Mission San Miguel,¹¹ and therefore at the mouth of Estrella Creek, as the lower course of Cholame Creek is called.

Choul mountain, in Santa Clara County, bears a name of unknown origin.

Chowchilla River in the drainage of the San Joaquin was in its lower course the habitat of the Chauchila tribe of the Yokuts. This division bore a warlike reputation among neighboring groups, and its

¹¹ Mason, present series, x, 107, 1912. The settlement known as Cholame is, however, on the Cholame grant, which is on Cholame Creek, toward Cholame Pass, and some distance easterly of San Miguel, so that the site of the aboriginal Cholam village cannot be regarded as certainly known.

name may be connected with the Yokuts verb *taudja*, "to kill," but this etymology is far from certain. Yokuts Indians have at times translated the tribal name as "murderers," but this may be an incorrect *ex post facto* etymology on their part. The Chauchila have been referred to as a Miwok division; but as the Miwok, in distinction from the Yokuts, had no true tribes, it is likely that the Miwok Chauchilas were so named by the Americans, or by English-speaking Indians, after the name of the stream near whose upper course they live. There are also Chowchilla Mountains in Mariposa County.

Chualar, in Monterey County, is Spanish "place of chual," or *Chenopodium album*.

Cisco, in Placer County, is given by Bailey as of Indian origin, and meaning a kind of trout. The word will be found in any modern English dictionary as the name of a fresh-water fish. If originally Indian, it is not California Indian. It is also a family name.

Cleone, in Mendocino County, is probably named from Kelio, the Northern Pomo name of one of their divisions or more probably a village.¹²

Coachella, in Riverside County, is in Cahuilla territory, but it has not been learned that the name has an Indian source, though it is sometimes so stated.

Coahuila, see *Cahuilla*.

Collayomi, a land grant in Lake County, is no doubt named after the Coyayomi or Joyayomi "tribe" mentioned by Engelhardt.¹³ This is probably a Coast or Lake Miwok name, as shown by the ending *-yome*, "place," though the same element occurs with a similar meaning in Southern Pomo. Barrett (*Pomo*, 316) identifies it hesitatingly with Shoyome, a Lake Miwok village on the south side of Puta Creek three and a half miles below Guenoc.

Coloma, where gold was first discovered in California, in Eldorado County, is given by Powers, 315, as the name of a Nishinam (Southern Maidu) "tribe" or village.

Colusa County is named from the Patwin, that is, Southern Wintun, Koru, a village on the site of the present town of Colusa. The meaning of Koru is not known to the Indians, who declare it to be merely a place name. The r in this word is trilled, hence presents difficulty to Americans, which fact seems to account for its change into l. The origin of the third syllable is not entirely clear. Colusa

¹² Handbook of American Indians, Bur. Am. Ethn. Bull. 30, part 1, 672.

¹³ Franciscans in California, 1897, p. 451.

was originally spelled Colusi or Coluse, as it is still vulgarly pronounced. It is possible that the ending is from a Spanish plural of the place name used as a tribal name, as so often happened; or Korusi may have been an Indian variant of Koru. Indian informants mention a belief locally current among Americans that Koru was the name of a chief of the rancharia, but emphatically deny this. It will be seen that a similar statement has been made concerning Yolo, and that this statement is also contradicted by the available Indian information.

Comptche, in Mendocino County, is from an unknown source. There was a Pomo village Komacho in the region. Barrett, *Pomo*, 178.

Concow, in Butte County, surviving also as the official and popular name of the Concow or Maidu Indians on Round Valley reservation, is from the Southwestern Maidu word Koyongkau. Powers, 283, gives the etymology from *koyo*, "plain" or "valley, and *kau*, "earth" or "place."

Cortina Valley, in Colusa County, appears to be named for Kotina, a former Southern Wintun chief (Barrett, *Pomo*, 324), though whether his name was Indian, or an Indian corruption of Spanish Cortina, is not known.

Cosmit reservation, in San Diego County, is called Kosmit also in the Diegueño language, but the meaning is not known.

Coso, a range and place in Inyo County, appear to be named after a Shoshonean Indian division, allied to the Panamint or part of them. It is, however, possible that Coso is originally a place name, from which the range derived its name, after which the whites and then the Indians came to speak of the Coso Mountain Indians or the Koso tribe. The ethnology of this region is very little known. Bailey says that Coso means "broken coal." Words beginning with *ku*-mean charcoal in several Shoshonean dialects of the vicinity. A locality or village, but hardly a tribe, might be given such a name by Indians.

Cosumnes River is evidently named from an Indian village or tribe, as shown by the ending *-umne* or *-amni*, discussed under Tuolumne. The location indicates a Plains Miwok origin. Kawso (= Koso) is mentioned by Merriam, 348, as the name given by the Pāwenan (part of the Southern Maidu) to the Mokozumne Plains Miwok division. Cosumne thus appears to be Koso plus *-umni* plus the Spanish or English plural *-s*; Mokozumne may be only a form of the same name; and the term denotes the people of a Plains Miwok

village or tribe. The derivation of Cosumnes from Miwok *kosum*, "salmon," given by Bailey and others, should also be mentioned, though unverified.

Cotati, in Sonoma County, is named for Kotati, a Coast Miwok village just north of the present town (Barrett, *Pomo*, 311). The meaning of the word is unknown.

Coyote, and Coyote Creek, in Santa Clara County. Gannett says: "The word, in the dialect of the Cushina and other tribes inhabiting the upper portions of Sacramento Valley, means a species of dog." This is untrue. The origin of the word is Aztec coyotl, whence Mexican Spanish and ultimately English coyote.

Cuati, the name of a land grant in Los Angeles County, not to be confused with Quati in Santa Barbara County, is of unknown origin.

Cucamonga, in San Bernardino County, is a Shoshonean place name, Kukomo-nga or Kukamo-nga in Gabrielino, Kukumu-nga-bit or Kukamo-na-t in Serrano (Kroeber, *Shoshonean*, 134, 142, *Cahuilla*, 34, 39).

Cuyama River, between San Luis Obispo and Santa Barbara counties, derives its name from a Chumash place-name Kuyam, of unknown significance.

Cuyamaca Mountains, in San Diego County, were so called by the Diegueño Indians. *Ekwi-amak* is "rain-above."

Elim, in Tehama County. The origin is unknown. If Indian, the name is of Wintun source.

Guajome, in San Diego County, is from Luiseño Wakhaumai (Kroeber, *Shoshonean*, 147).

Gualala River, in Sonoma and Mendocino counties, according to Barrett, *Pomo*, 224, is probably from "Pomo wala'li or wa'lali, which in the Southern and Southwestern dialects is . . . a generic term signifying the meeting-place of the waters of any in-flowing stream with those of the stream into which it flows or with the ocean," in short, a river mouth. Any connection with Walhalla is imaginary.

Guatay, a San Diego County reservation, is named from Diegueño *kwatai*, "large."

Guenoc, a land grant and town in Lake County, is a name of doubtful origin, according to Barrett, *Pomo*, 317.

Guejito, in San Diego County, is from an unknown source, probably Spanish, as indicated by the ending. *Guijo* is "gravel" in Spanish.

Guesisosi, a land grant in Yolo County, on Cache Creek a few miles above Woodland, in territory originally belonging to the Patwin or Southern Wintun. The name is unidentified.

Guilicos or Los Guilicos grant, in Sonoma County, is from Wilikos, the Coast Miwok name of a former Wappo village at the head of Sonoma Creek (Barrett, *Pomo*, 269). There was also a Southern Pomo village, named Wilok, about three miles northeast of Santa Rosa (Barrett, *Pomo*, 222).

Guyapipe reservation, in San Diego County, is named *ewi-apaip* or *awi-apaip*, "rock lie on," in the Diegueño dialect.

Haiwee Creek, in Inyo County. Unidentified.

Hanaupah Canyon, in the Panamint range, in Inyo County. Unidentified. The form of the name, however, including the suffix *-pa*, as well as the situation of the locality, make an ultimate Shoshonean source likely.

Hemet, in Riverside County, appears not to have been identified, although the word sounds as if it might be Luiseño Shoshonean.

Hetch Hetchy Valley, in the famous canyon on Tuolumne River, is named from a Central Miwok word denoting a kind of grass or plant with edible seeds abounding in the valley. Merriam, 345, gives Hetch-hetch-e as a Miwok village in the valley.

Hettenchow, or *Kettenchow*, or *Kettenshaw*, a peak and valley in Trinity County, are, according to Powers, 117, named from Wintun *ketten* or *hetten*, "cammas," and *chow*, "valley," whereas *Hetten Pum* means "cammas earth." *Pom* is Wintun for "land," and there seems little reason to doubt that *hetten* denotes camas, or at least some kind of edible root.

Homoa, near San Bernardino, is from Shoshonean Serrano Hom-hoa-bit (Kroeber, *Shoshonean*, 134).

Honcut, in Butte County, and Honcut Creek between Butte and Yuba counties, probably named after a land grant in Yuba County, take their designation from a Maidu village near the mouth of the creek. Powers, 282.

Hoopa, in Humboldt County, is the Yurok name of the valley as a whole, Hupa, or better Hupo, though the "o" is so open that its quality is well given by English "aw." It is not the name of the "tribe," for the Yurok called the Hoopa Indians Hupo-la after the locality.

Hopow Creek, an affluent of the Klamath, in Del Norte County, is named after the Yurok village Ho'opeu.

Horse Linto Creek, in Humboldt County, is a settler's rendering of Haslinding,¹⁴ the Hupa name of the village at the mouth of the stream.

Hosselkus valley, in Plumas County, has an unidentified name; if Indian, it would be Maidu.

Huasna, in San Luis Obispo County, is given as a Chumash village by Alexander Taylor.¹⁵

Hueneme, in Ventura County, is originally a Chumashan place name, Wene'me or Wene'mu.

Huichica, a land grant in Sonoma and Napa counties, is named from Huchi, a Coast Miwok village which stood near the plaza of the city of Sonoma. The etymology is unknown (Barrett, *Pomo*, 312).

Hunto, the name of a mountain in Yosemite National Park, is from an Indian word for eye, according to Sanchez, 379. *Huntu* is "eye" in Southern Sierra Miwok, the native dialect of the vicinity.

Hyampom, on the south fork of the Trinity River, in Trinity County, is evidently Northern Wintun, in which *pom* is "land" or "place." Powers, 231, gives Haienpum as a place on the Hay Fork of Trinity River and as meaning "high hill," but *pom* clearly has the meaning of "down," "earth," or "land" rather than of "elevation" in Wintun.

Iaqua Buttes, and *Iaqua*, in Humboldt County, seem to be named from Aiekwi or Aiekwe or Ayokwe, the form of native greeting, as well as of salutation at parting, common to several of the languages of Humboldt County, and still frequently used instead of "good day" between Indians and whites.

Igo, in Shasta County, is of unknown origin.

Inaja, more properly Iñaja, an Indian reservation in San Diego County, is named from Diegueño Indian Any-aha, "my water."

Inyo County is said to be named after an Indian tribe. No such division or village appears to have been recorded, and although the word sounds Shoshonean, and the derivation seems probable, it must be regarded as uncertain.

Ivanpah, in San Bernardino County, is in Chemehuevi, that is, Southern Paiute, territory, and the name contains only sounds that occur in that language. Bailey says it is from *ivan*, "dove," and *pah*, "water," which the writer is unable either to admit or refute.

¹⁴ Goddard, present series I, 12, 1903: Xaslindif.

¹⁵ California Farmer, October 18, 1861.

Jalama, in Santa Barbara County, is named from a Chumash village Halam.¹⁶

Jamacha or *Jamacho*, in San Diego County, is from Diegueño Indian Hamacha, the place being named after a small wild squash plant.

Jamul, in San Diego County, has its name from Diegueño *ha-mul* (from *aha*, "water"), meaning "foam" or "lather."

Jolon, in Monterey County, is an aboriginal site of the so-called Salinan Indians, and is still inhabited by them. The origin of the name, however, is uncertain, and the meaning undetermined.¹⁷

Jonive, a grant in Sonoma County, has a name of unknown origin. The sound *v* is not Indian, in this vicinity; but might be Spanish orthography for *b*.

Juristac, a land grant in San Benito County, is named from a Costanoan place-word, as indicated by the locative case *-tak*. See also *Ulistac*.

Jurupa, in San Bernardino County, is Serrano or Gabrielino Shoshonean Hurupa or Hurumpa, meaning unknown (Kroeber, *Shoshonean*, 134, *Cahuilla*, 39).

Kaweah River is named after a Yokuts tribe called Kawia, or probably, more exactly, Gā'wia. They lived on or near the river where it emerges from the foothills into the plains. The name has no known connection with the almost identically pronounced Southern California term Cahuilla.

Kai-ai-au-wa Peak, near Yosemite, in Mariposa County, is in Southern Miwok territory, but the origin and meaning of the name are not known.

Ke-ka-wa-ka, or *Kekawa*, creek, an affluent of Eel River, in southwestern Trinity County, bears a name of unknown but presumably Indian origin.

Kenoktai, *Conockti*, *Kanaktai*, the name of a prominent peak in Lake County also known as Uncle Sam Mountain, is derived from the Southeastern Pomo name Knoktai, from *kno*, "mountain," and *hatai*, "woman" (Barrett, *Pomo*, 183).

Kenshaw Spring, in Shasta County, between Chanchelulla and Beegum Mountains, is in Wintun territory. The word sounds Wintun. Compare Hettenschow or Kettenschow.

¹⁶ Alexander Taylor, *California Farmer*, October 18, 1861, corroborates the existence of the village, but his Ialamma is only a misspelling of Spanish Jalama.

¹⁷ See Mason, "The Ethnology of the Salinan Indians," in the present series, x, 106-108, 1912.

Kibesillah, in Mendocino County, suggests a derivation from Pomo *kabe*, "rock," *sila*, "flat." No such Pomo name is known in the vicinity of Kibesillah, but Barrett, *Pomo*, 230, mentions *kabe-sila-urina*, "rock-flat-upon," as a former village of the Southwestern Pomo at Salt Point.

Kimshew and Little *Kimshew* creeks, in Butte County, are near *Nimshew*, and their name, like the latter, is presumably also of Maidu Indian origin.

Klamath. This well-known name of a large river, lakes, former California county, present post-office in the same state, and flourishing city in Oregon, is of obscure origin. The Klamath Indians of Oregon, a sister tribe of the more famous Modoc, still live on the upper drainage of the river. They call themselves *Maklaks*, "people." The Chinook of the Columbia River called the tribe *Tlamatl*.¹⁸ From this word the early American forms of the name, *Tlameth* and *Clamet*, seem to be derived, whence in turn the more recent *Klamath*. English speaking people regularly change aboriginal surd *l* or *tl* into *kl* at the beginning of words, because, although *tl* in little is as familiar as *kl* in pickle, *tl* does not occur initially in English, whereas *kl* is common (clear, clean, clever, click, close), and it is well known that the untrained ear hears only what the tongue is accustomed to produce. The same phonetic law has produced *Klickitat*, and *Klingit* for *Tlingit*. It is, however, not certain that Chinook *Tlamatl* is a rendering of *Maklaks*. De Mofras,¹⁹ earlier than Hale, speaks of the *Klamaes*. This form is nearer both to original *Maklaks* and to modern *Klamath* than is *Tlamatl*. It is possible that *Klamaes* and *Klamath* are a corruption, by metathesis of consonants, directly from *Maklaks*.

Klamathon, in Siskiyou County. This name is apparently coined from *Klamath*.

Koip Peak, between Mono and Tuolumne counties, is probably, like near-by *Kuna* Peak, named from a Mono Indian word. *Koipa* is "mountain sheep" in the closely related Northern Paiute dialect.

Kosk, and *Kosk* Creek, in Shasta County, are in Achomawi or Pit River Indian territory, and the word sounds as if it might have been taken from that language.

Kuna Peak, between Tuolumne and Mono counties, is probably named from the Shoshonean word *kuna*, usually meaning "fire," but appearing in the Mono dialect of the vicinity with the signification of "fire-wood."

¹⁸ Hale, U. S. Expl. Exped., vi, 218.

¹⁹ II, 335.

Lac, a grant in Sonoma County. Unidentified.

Lasseck Peak, in Humboldt County, is said to be named after a chief Lasseck or Lassik. The Athabascan Indians of Van Duzen, Larabee, and Dobbin creeks, and the head of Mad River, have also generally been called Lassik after his name.

Lebec, in Kern County, has an unidentified name.

Locoallomi or *Locallomi* grant, in Pope Valley in Napa County, seems to be named from *Lakahyome* (Barrett, *Pomo*, 273), the Lake Miwok name of a Wappo rancheria which these Indians themselves called *Loknoma*, and which stood three-fourths of a mile northeast of Middletown in Lake County. The *Locollomillo* (pronounce *Lokomyo*) Indians were said by Alexander Taylor²⁰ to be near the *Guenocks'* rancheria which in turn lay between Clear Lake and Napa. The meaning of *Lakahyome* is not known, except that *-yome* occurs as an ending on many Lake Miwok village names with the signification of "place."

Loconoma Valley, in which Middletown, Lake County, is situated, is named from a former Wappo village, near Middletown, called *Loknoma*, from *lok*, "wild goose," and *noma*, "village." See *Locoallomi*.

Loleta, in Humboldt County, is given by Gannett as meaning "a pleasant place" in Indian. This meaning does not appear probable, and the word has not a Wiyot ring. It is more likely the Spanish woman's name *Lolita*.

Lompoc, in Santa Barbara County, like *Huasna*, is mentioned by Alexander Taylor²¹ as having been the name of a Chumash village.

Lospe Mountain, near Guadalupe in Santa Barbara County, was in Chumash Indian territory, and the word, though unidentified, might with perfect propriety have been taken from one of the Chumash idioms.

Malibu, one of the three names of the Topanga-Malibu-Sequit land grant in Los Angeles County, seems to go back for its source to the appellation of a Chumashan or Gabrielino Shoshonean village, called *Maliwu* in Chumash, which lay on the east side of the mouth of Malibu Creek.

Mallacomes, two land grants also called *Moristul* (which see), one in Sonoma, the other in Napa and Sonoma counties, are named from *Maiyakma*, a former Yukian Wappo village a mile south of the present Calistoga. Barrett, *Pomo*, 269. The meaning is not known.

²⁰ In the *California Farmer* of March 30, 1860.

²¹ *California Farmer*, October 18, 1861.

Bailey's etymology of may-a-camass, "camass eaters," is imaginary, since *camas* is a Northern and not a Californian Indian word. and "eat" is not *mai* in Wappo or any neighboring language.

Marin County. The "official" derivation is from chief Marin of the Lecatuit or Likatuit or Lekahtewutko "tribe," a division or more probably a village of the Coast Miwok. This is probably true, but it is unlikely that Marin was the Indian name of this man. In his native language the sound "r" does not occur. Maslin goes on to say that after being subdued, "Marin" was baptized *Marinero*, "mariner" and became a ferryman on San Francisco Bay. It is altogether more probable that he first followed this occupation, was then called "Marinero," and that Marin is an abbreviation or corruption of this Spanish name.

Matajuai, in San Diego County, is *Diegueño Amat-ahwai*, "earth-white," so named from white earth or scum, used as paint, being found at the spot. The variant *Matagual* is only a misprint.

Matilija, in Ventura County, is from *Ma'tilha*, or, according to H. W. Henshaw, *Matilaha*, a Chumash place name.

Mattole River, in Humboldt County. The Wiyot of Humboldt Bay call the Athabaskan Indians of this vicinity *Medol*, but it is not known if the name is original with them.

Maturango Peak, in Inyo County. Uncertain, but more probably Spanish or corrupted Spanish than Indian.

Mentone, in San Bernardino County, is given by Bailey as "Indian" for "chin." *Menton* is Spanish for this part of the body; but it is more likely that the place is named after the one in the French Riviera.

Mettah, a school district in Humboldt County, is named from the Yurok village of *Meta* on the south side of the Klamath River.

Moco Canyon, in Eldorado County. This name is not Indian, but means muck, mucus, or slag in Spanish.

Modoc County is named after the Modoc Indians, a tribe closely allied in speech to the Klamath or "Klamath Lakes" adjoining them on the north. Maslin gives the meaning of the word as "the head of the river," but in a note cites General O. O. Howard as stating that Modoc is a "corruption" of *Maklaks* and means "people." As the late veteran Indian linguist A. S. Gatschet more than twenty years ago compiled and published an elaborate and careful dictionary of the Klamath language,²² from which the Modoc differs scarcely even as a dialect, so that all the facts bearing on the question have long

²² Contributions to North American Ethnology, II, Washington, 1890.

since been of authentic record, this word furnishes a memorable example of the free rein which it has been customary to give to current tradition, vulgar rumor, and unsubstantiated opinion, in the matter of Indian names. *Modoc* is the Klamath and Modoc word for "south" or "southern," written by Gatschet *moatok*, in another grammatical form *moatokni*, applied by the Klamath to their southern kinsmen the Modoc, though never, in such application, without the addition of a word like *maklaks*, "people" (see Klamath). In a word, "Modoc" means "south," and nothing more or less.

Mohave, or *Mojave*, originally written *Jamajab* by the Spanish explorer Garcés, from *Hamakhava* (k and h separate sounds), the name for themselves of an important tribe, of Yuman lineage, in the bottom lands of the Colorado River in the region where California, Arizona, and Nevada now meet. Outside of their own territory, the name was first applied to the Mohave River to the west, from an erroneous impression that this drained into the Colorado in the habitat of the Mohave. From the river, the desert in which it is lost took its designation, and from this the town in its western reaches. All the localities to which the name Mohave now adheres were in Shoshonean and not in Mohave territory. The meaning of the name *Hamakhava* is not known to the Mohave of today, and analysis of their language has so far failed to reveal an etymology. A. S. Gatschet appears to be responsible for the explanation "three mountains," adopted by Bailey, Gannett, and others. This derivation is positively erroneous. "Three" is *hamok* in Mohave, and "mountain," *avi*, so that the vowels differ from those of *Hamakhava*; moreover the rules of composition in the language demand the inverse order, *Avi-hamok*. This is a place name actually found in the Mohave dialect, but denotes a locality near Tehachapi Pass.

Mokelumne River is named from Indian *Mokelumni*, "people of Mokel," a Plains *Miwok* village near Lockford on this stream, according to Barrett, *Miwok*, 340, and Merriam, 350. The ending *-umni* occurs also in *Tuolumne* and *Cosumnes*.

Monache Peak, in Tulare County, is named from the *Monachi* Indians, usually called *Mono*, which word see.

Mono County and Lake are named after a wide-spread division of Shoshonean Indians on both slopes of the Southern Sierra Nevada. In speech and presumably in origin they are closely allied to the Northern Paiute of Nevada and Oregon and the Bannock of Idaho. By their Yokuts neighbors they are called *Monachi*. The ending *-chi*

occurs otherwise in Yokuts and Miwok as a suffix on names of tribes or divisions: Yaudanchi, Wimilchi, Heuchi, Pitkachi, Wakichi, Dalinchi, Apiachi, Pohonichi, perhaps also Tachi, Wobonuch, and Endimbich. The stem therefore appears to be *Mona*. To the Spaniards, who knew the Miwok and Yokuts earlier than they knew the *Monachi*, this stem might easily suggest *mono*, "monkey." This is the interpretation usually given, as by Maslin, but it seems to be secondary. Bailey also says that *Mono* is a tribal name, but his explanation of "good-looking" is unfounded. The Yokuts themselves give a secondary interpretation of *Monachi*, which is interesting as an example of folk etymology, but very improbable. *Monai*, *monoi*, or *monoyi* means "flies" in Yokuts speech. The *Monos*, as mountain dwellers in the higher Sierra, climbed skillfully about steep cliffs and rocks until from a distance they looked like flies on a vertical surface: hence their designation, the Indians say. But Indian tribal names of known origin do not follow such lines of thought. It appears that *Monachi*, like most of the names of the Yokuts for their own or other tribes, no longer possesses a determinable meaning.

Moorek, a school district in Humboldt County, is named from *Mureku* or *Murekw*, a Yurok village on the north side of the Klamath River.

Moosa, in San Diego County, is a name of unknown origin.

Moristul, or *Muristul*, the name of two land grants in Sonoma and in Napa and Sonoma counties, also called *Mallacomes* (which see), is from *Mutistul*, a Wappo village formerly four and a half miles west of Calistoga in the mountains. The derivation is from *muti*, "north," and *tul*, "large valley." Barrett, *Pomo*, 271.

Morongo, the name of a valley, a creek, and an Indian reservation near Banning, Riverside County, is Serrano Shoshonean for a native village in Morongo Valley or on Mission Creek. Kroeber, *Cahuilla*, 35

Muah, a peak between Tulare and Inyo counties. Unidentified, but the location of the mountain and the sound of the word indicate a Shoshonean origin, probably *Mono*.

Mugu, a point and lagoon in Ventura County, is Chumash Indian *muwu*, "beach," used as a specific village or place name.

Musalacon, a land grant near Cloverdale, Sonoma County, is probably of Pomo origin. Powers, 183, says of the Indians he calls the *Misalla Magun*: "This branch of the [Pomo] nation was named after a famous chief they once had. A Gallinomero [Southern Pomo] told

me the name was a corruption of *mi-sal'-la-a'-ko*, which denotes 'long snake.' Another form for the name is *Mu-sal-la-kün'*."

Muscupiabe, near San Bernardino, was in Serrano Shoshonean territory, and is the Serrano name of the place or vicinity, *Muskupia* being the stem, and *-bit*, appearing also as *-pet* and *-vit*, a locative suffix. Cited by Kroeber, *Shoshonean*, 134.

Najalayegua, a land grant in Santa Barbara County, is evidently named after a Chumash village, called *Majalayghua* by Alexander Taylor.²³ This is no doubt a misspelled form of *Najalayegua*, but was probably given to Taylor as an aboriginal site and name by Indian informants.

Napa County and City are said by Maslin and others to be named from an Indian word meaning "fish." Bailey gives a derivation from an Indian "tribe," while Gannett says the word means "house" in Indian. No Indian village called *Napa* has ever been located in the region. As regards the meaning "fish," "harpoon-point" is perhaps to be substituted, since Barrett, *Pomo*, 293, says that no such word as *Napa* has been found in the Wintun, Wappo, or Miwok languages, which are the ones that would come in question, but that the word is used in several of the Pomo dialects, some of which were spoken not far away, as the name of the detachable points of the native fish harpoon, although there is no distinct evidence that this is the origin of the name *Napa*.

Natoma, in Sacramento County, passes current as meaning "clear water," but this appears the creation of an American mind. The word seems derived from *Maidu nato* or *noto*, "north" (or, according to some translations, "east"—probably the true meaning is "up stream"), and was presumably a village name. See Powers, 317.

Neenach, in Los Angeles County, is of unknown origin, but the place is in Shoshonean territory and the word sounds as if it might be from some Shoshonean dialect.

Nimshew, in Butte County, is named from *Maidu nem seu* (or *sewi*), "large stream." Powers, 283.

Nipomo, in San Luis Obispo County, is named from a Chumash village.²⁴

Nojoqui, probably more correctly *Nojogui*, since *Nojohui* is also found, in Santa Barbara County, seems to go back to a Chumash Indian *Onohwi*.

²³ California Farmer, April 24, 1863.

²⁴ Schumacher in Smithsonian Report for 1874, 342, 1875.

Nomcult Farm, the first name applied to the reservation later designated as Round Valley. This term is not in use now. The word is Wintun, although the reservation is on original Yuki territory. *Nom-* is "west," as in *Nomlaki*, "west-tongue, west language"; *-cult* contains a combination of consonants not tolerated in Wintun but standing for "lh," as the surd or "Welsh" l of that language may be represented. The second element would in that case be *kolh*, which, according to Powers, 230, represents *kekhl*, "tribe." Bailey gives *Meshakai*, "tule valley," as the aboriginal name of Round Valley, but the writer has never met with this term.

Nopah Range, in Inyo County. The name sounds Shoshonean, the locality suggests the same.

Noyo River, in Mendocino County, is named after the former Northern Pomo village at the mouth of Pudding Creek. Barrett, *Pomo*, 134, says that this creek was named after the village (which is general Indian custom), but that "after the coming of the whites the name was transferred" (i.e., by them) "to the larger stream south of Fort Bragg, which now bears the name of Noyo River. The Indian name of Noyo River is *tce'mli-bida*" (i.e., *Chemli-bida*). The meaning of Noyo is unknown.

Ojai, in Ventura County, is given by Bailey and Gannett as meaning "nest." This signification would be characteristic of civilized fancy rather than of Indian geographical usage. The word is a Chumash place name, *A'hwai*, and means "moon."

Olanche, in Inyo County, may be named from an Indian source, though its origin appears to be unknown. The word has a general Shoshonean ring, though neither the Mono-Paiute-Bannock, the Shoshoni-Panamint-Coso, nor the Chemehuevi-Paiute-Kawaiisu dialect groups of this vicinity contain the sound "l." The nearest Shoshonean language in which "l" occurs is the Tübatulabal of Kern River, across the main divide of the Sierra Nevada. It is not impossible that the word is taken from the name of a Yokuts tribe on Tule River on the opposite side of the Sierra Nevada, who call themselves *Yaudanchi*, and are called by their western neighbors *Yaulanchi*. This pronunciation, via the intermediate form *Yolanchi*, is not very different from "Olanche." There is also an *Olancha* Peak in the crest of the Sierra Nevada west of the settlement called *Olanche*, and therefore nearer to the habitat of the *Yaudanchi*.

Olcma, in Marin County, according to Barrett, *Pomo*, 307, is probably named from a former Coast Miwok village *Olemaloke*, "from

ō'le, coyote, and lō'klō or lo'kla, valley, near the town of Olema at the southern extremity of Tomales Bay." It is probable that this name is also the source of the "tribal" name Olamentke, frequently applied, since the time of the Russian settlement in California, to the Coast Miwok Indians of Bodega Bay, and thence to those of Marin County as a group.

Oleta, in Amador County, is in Miwok Indian territory. A stem *ole* appears in several Miwok dialects with the meaning "coyote"—compare Olema,—and *-ta* or *-to* means "at." There is, however, no evidence that this suggested derivation is the actual one. Merriam, 344, gives Tamm-oolette-sa as a Miwok village near Oleta, but this name is more probably connected with tamalin, north.

Olompali, in Marin County, is from Olōmpōlli, a Coast Miwok village five miles south of the present Petaluma. Barrett, *Pomo*, 310. *Olom* signifies "south," but the meaning of *polli* is not known.

Omagar Creek, a southerly affluent of the Klamath River, in Del Norte County, has a name that is derived from Omega', the Yurok designation of the stream.

Omjumi Mountain, in Plumas County, is in Maidu Indian territory, and the name sounds as if it might be Maidu, in which dialects *om* means "rock;" but the derivation is not recorded.

Omo Ranch, in Eldorado County, is named for the Northern Sierra Miwok village Omo. Merriam, 344.

Omochumnes, a land grant in Sacramento County, has an Indian name. It contains the ending *-umni* (or *-amni*, *-imni*), borne by many Yokuts, Miwok, and Maidu tribal or group names in the valley of the San Joaquin and Lower Sacramento. Oomoochah is given by Merriam, 349, as a Northwestern (Plains) Miwok village at Elk Grove. The Umuchamni or Omochumne would therefore be the people of this village. According to several authors other than Merriam, but less definite in their statements, Elk Grove and the tracts north of the Cosumnes were Maidu, not Miwok.

Ono, in Shasta County, is from an unknown source. In the Maidu language, and in the Southern Wintun dialect of the vicinity of Colusa, *ono* means "head." The settlement Ono is in Northern Wintun territory, but this and all the other dialects of the family, except that of Colusa, have quite different words for "head," so that the derivation, although possible, must be considered entirely unconfirmed.

Orestimba, a land grant on the west side of the San Joaquin River, in Stanislaus and Merced counties, at the mouth of Orestimba Creek, is a name of unknown origin. The first part of the word, *ores*, however, denotes "bear" in the Costanoan dialects, and it is perhaps more than a coincidence that an affluent of Orestimba Creek is known as Oso, that is, "bear," creek. The Costanoan Indians ranged from the coast at least to the Mount Diablo Range, and perhaps beyond; at any rate, whether Orestimba was in Yokuts or in Costanoan territory, the Spaniards would have reached it from the Costanoan Indians.

Orick, in Humboldt County, is named after Arekw or Orekw (the first vowel nearly like English aw), a Yurok village on the south side of the mouth of Redwood Creek, a mile and a half below the present post-office and stage station of the same name.

Osagon Creek, in Humboldt County. From Yurok Asegen, a place name of unknown meaning.

Otay, in San Diego County, is named from a Diegueño Indian word, *otai* or *otaya*, "brushy."

Pachappa, near Riverside. Of unknown origin.

Pacoima, in Los Angeles County. Probably of Gabrielino Shoshonean origin, but unknown.

Pakute Mountain, in Kern County, is named from the same tribe as Piute, which see.

Paicines, or Pajines, in San Benito, is probably a tribal name, as stated by Sanchez, 160, 399. The region was occupied by Costanoan Indians, many of whose village or group names end in -n, to which the Spaniards frequently added the plural -es. Compare Mutsu-n, Rumse-n, Olho-n-es, Bolbo-n-es, Salso-n-es; also, in the territory of their immediate neighbors, Essele-n, Carqui-n-ez, Suisu-n, Ulpi-n-os.

Pala, in San Diego County, may be named, as sometimes stated, from Spanish *pala*, "shovel," but is much more probably from Luiseño Shoshonean *pala*, "water." At least, the Luiseño accept it as a native place name of this significance. Kroeber, *Shoshonean*, 147.

Pamo, in San Diego County, was called Pamo by the Diegueño Indians, but the meaning is not known.

Panamint Mountains and Valley, in Inyo County, are named from a Shoshonean tribe in the region of the range, who were close relatives of the Shoshoni proper of central and northeastern Nevada, and identical, or practically so, with the Shikaviyam or Koso. The Mohave apply the name, in their pronunciation "Vanyume," to the Serrano of

the Mohave River and adjacent regions. The origin of the word is unknown.

Paoha Island, in Mono Lake, has a name which for all that is known to the contrary may be from a Mono or Northern Paiute source. It is of unknown origin, however, and in its present form looks more like a Hawaiian than an Indian word. The *Faoho* of some maps appears to be only a misspelling.

Pasadena is often known as "the Crown City," and Bailey gives its derivation from Chippewa *Weoquan Pasadena*, "crown of the valley." The Chippewa may now have a descriptive word for crown, but such a conception is certainly not aboriginal. No unsophisticated and very few civilized Indians would think of calling any place the "crown of the valley." The phrase has all the appearance of having been coined by an American out of Indian or imaginary Indian terms.

Paskenta, in Tehama County, is Central Wintun *Paskenti*, "bank-under," under the bank.

Pauba, in Riverside County, was in Luiseño territory, and the name sounds as if it had been taken from that language, but nothing appears to be known as to its source.

Pauja, in San Diego County, is named from Diegueño *Pauha*, of unknown significance.

Pauma, in San Diego County, is *Paumo*, a still inhabited Luiseño village. The meaning is unknown. Kroeber, *Shoshonean*, 147.

Pecwan Creek, Humboldt County, has its designation from the Yurok village of *Pekwan*, at the entrance into the Klamath of the creek, which is named, according to Indian custom, after the spot at its mouth.

Petaluma, in Sonoma County, is named from an aboriginal *Petaluma*, which stood "on a low hill east of Petaluma Creek at a point probably about three and one-half miles, a little north of east, of the town of Petaluma." So Barrett, *Pomo*, 310. The village belonged to the Coast Miwok, and its name in their dialect signifies "flat-back," no doubt from the appearance of the elevation on which it was situated.

Piru, in Ventura County, according to Alexander Taylor,²⁵ is named from a Chumash village *Piiru*; according to the writer's information, the name of the village, which was Shoshonean, not Chumash, was *Pi'idhuku* in Shoshonean, and signified a kind of plant, perhaps a sedge or grass.

²⁵ California Farmer, July 24, 1863.

Pismo, in San Luis Obispo County, is of unknown origin. The place was in Chumash Indian territory, and the name sounds like good Chumash.

Piute, places in Kern, also in San Bernardino County, and a spring in eastern San Bernardino County, take their name from a well-known, or rather two well-known, Shoshonean divisions, too widespread and too loosely organized to be truly designable as tribes, but each possessing a considerable uniformity of speech and customs. The Southern Paiute, who appear to have been first called by this name, lived in southwestern Utah, northernmost Arizona, southern Nevada, and southeastern California, and may be said to include the Chemehuevi and Kawaiisu. Their language is similar to Ute. The Northern Paiute, who disclaim this name, although it is universally applied to them by Americans in their habitat, and who have also been called Paviotso in literature, speak a dialect virtually identical with Bannock. They live in eastern Oregon, northwestern Nevada, an eastern fringe of northern and central California, and apparently shade into the Mono. Thus the Indians of Owens River Valley, who appear to be substantially Monos, are commonly called Paiutes. The usual American pronunciation of Paiute is Paiyut, but the meaning of the word, which has been interpreted both as "water Ute" and "true Ute," cannot be considered as positively determined.²⁶ Most of the places in California called Piute or Pahute are in or near the range of the Southern Paiute or their close kindred; but a Piute mountain and creek in Tuolumne County are apparently named after the Mono-speaking Indians of Mono County, who affiliate with the "false" or Northern Paiute.

Pogolimi, a land grant in Sonoma County, bears an unidentified name which may be Indian.

Pohono Falls, in Yosemite Valley, appears to be of Miwok Indian origin. These Indians, however, do not recognize the often quoted meaning "evil wind," and connect the word rather with Pohonichi, the Yokuts name of a Miwok group in the vicinity, in which *-chi* is an ending denoting "people."

Pomo, a post-office in Potter Valley, Mendocino County, embodies the name Pomo or Poma—meaning "people" and much used as a suffix of village names—which in literature and popular usage has come to designate a large group or linguistic family of Indians in Mendo-

²⁶ See, however, W. L. Marsden, in *American Anthropologist*, n.s. XIII, 724-725, 1911, who presents good evidence favoring the meaning "water Ute."

cino, Lake, and Sonoma counties. It was, however, also the name of one particular village of the Northern Pomo, which stood at the present Potter Valley flour mill, south of the post-office, and is probably the source of the name of the town. Barrett, *Pomo*, 140.

Poonkiny, in Mendocino County, is Yuki *punkini* (more exactly *punk'ini*), meaning "wormwood."

Posolmi, a land grant in Santa Clara County, may be a name of Costanoan origin, but is not identifiable.

Poway, in San Diego County, was in Diegueño territory. The neighboring Luiseño today call the place Pawai (Kroeber, *Shoshonean*, 149); the Diegueño use the same term; but whether this designation is native with either tribe, or borrowed by them from the whites, is not certain.

Putá or Putah or Putos Creek, has sometimes been said to be of Indian origin, but appears to be from the Spanish *puta*, "harlot."

Quati, a grant in Santa Barbara County, bears an unidentified name.

Requa, in Del Norte County, is said to have been named after a member of the Requa family prominent in California. It is more likely that the origin is from Rekwoi, an important Yurok village at the mouth of the Klamath, just below the present American town.

Saboba, in Riverside County, is Luiseno Sovovo (both "v's" bilabial), a place or village name, meaning unknown. Kroeber, *Shoshonean*, 147.

Samagatuma, near Cuyamaca in San Diego County. Unknown. If Indian, Diegueño.

Sanel, in Mendocino County, is given by Bailey as named after a "tribe," which is correct in the sense of a village. According to Barrett, *Pomo*, 171, this rancheria was called Shanel (cane'l), from shane (cane'), "sweat-house," and was a populous place "on the south bank of McDowell Creek at a point just south of the town of Sanel or Old Hopland." From this village was named the Senel land grant. Another Pomo village called Shanel, which, however, does not appear to have entered into American geographical nomenclature, was situated farther north, in Potter Valley.

Sapaque Valley, on the line of San Luis Obispo and Monterey counties, has an unidentified name. If Indian, it is of Salinan origin.

Saticoy, in Ventura County, goes back to a Chumash original Sati'koi, a village in the vicinity.

Sequan or *Sycuan* or *Cycuan* reservation, also a peak, in San Diego County, has its name from a Diegueño Indian word, *sekwán*, denoting a kind of bush.

Sequit, the third name of the Malibu or Topanga land grant in Los Angeles county, is unidentified, but, like these two other names, evidently of Indian origin.

Sesma, in Tehama County, bears an unidentified name.

Sespe, in Ventura County, is named from a Chumash village, *Se-ek-pe*, *Shehpe*, or *Sekspe*; the meaning of the word may be "fish."

Shasta. The name of this county is involved in obscurity. The county is obviously named after the far-visible gigantic mountain. The suggested derivation from French *chaste*, "pure," as applicable to its perpetual snows, is unlikely. Dr. R. B. Dixon, who is the authority above all others on the Shasta group of Indians, says:²⁷

"The earlier forms—such as *Saste*, *Shaste*, *Sasty*, *Shasty*, *Chasty*, *Shastl*, *Shastika*—have given place to the form *Shasta*. . . . The origin and meaning of this term . . . are both obscure. So far as my information goes, it is not a term used by the Shasta for themselves, either as a whole or in part, although there is some doubt as to whether or not the term may not have been used to designate a portion of the stock, i.e., that about the eastern portion of Shasta Valley. Its use, however, as such, is recent. It is not a term for the Indians of this stock in the languages of the surrounding stocks, whose names for the people are known, although in use by both *Achomá'wi* and *Atsugé'wi*. It is emphatically denied by the Shasta that it is a place-name for any section of the territory occupied by them, and indeed there is some question as to whether it is even a word proper to their language. After persistent inquiry, the only information secured which throws any light on the matter is to the effect that about forty or fifty years ago there was an old man living in Shasta Valley whose personal name was *Shastika* (*Süstí'ka*). He is reported to have been a man of importance; and it is not impossible that the name *Shasta* came from this Indian, an old and well-known man in the days of my informant's father, who was living at the time of the earliest settlement in this section,—in the '50's. Inasmuch as the suffix *ka* is the regular subjective suffix, we should have *süstí* as the real name of this individual, from which the earlier forms of *Shasty*, etc., could easily have been derived. The derivation from the Russian *CHISTY*, meaning "white [*sic*], clean,"—a term supposed to have been applied by the settlers at Fort Ross to Mount Shasta,—is obviously improbable. The matter is further complicated by the difficulty of clearing up the precise relationships of the so-called "*Chasta*" of Oregon, and of explaining the recurrence of the same term in the name of the Athabaskan tribe of the *Chasta-Costa*²⁸ of the Oregon coast."

Dr. Dixon, however, also says that the Shasta are called *Sastí'dji* by the Achomawi and *Süstí'dji* by the Atsugewi. These names would

²⁷ "The Shasta," in Bull. Am. Museum Natural History, xvii, 384, 1907.

²⁸ Pronounced "Shasta-Costa." The spelling with "Ch" points to an original French use of the word in Oregon.

point to an Indian origin for the tribal term and geographical designation, were it not entirely possible that they have but recently been coined or derived, from the American name of the Shasta, by these other Indians who now know English in addition to their own dialects.

The origin of the word must therefore be regarded as still undetermined, although almost certainly Indian.

The current derivation of the word, as given, for instance, by Maslin, is from a tribal name meaning "stone house or cave dwellers." This erroneous tradition seems to go back to a hasty misunderstanding of a statement by Steele on page 120 of the Report of the Commissioner of Indian Affairs for 1864, to the effect that "the Shasta Indians, known in their language as Weohow—it meaning stone house, from the large cave in their country—occupy the land east of Shasta River," etc. It will be seen that the alleged meaning does not apply to "Shasta" at all, but to the native name "Weohow" for which the Americans use Shasta. Indiscriminateness of this sort is typical of most of the attempts to explain native names in California.

Simi, in Ventura County, is Ventura dialect Chumash Shimiya or Shimii, a place or village. Indian informants can give no etymology, and Bailey's signification of "source of water" appears unfounded.

Sisar Canyon, in Ventura County, derives its name from a Chumash village site Sis'a.

Siskiyou, the name of the county, is a term the significance of which, according to Maslin, has "never been authentically determined," although it has "generally been assumed" to be the "name of a tribe." He cites, however, a suggestion that it is a corruption of French "Six Cailleux," applied in 1832 to a ford on the Umpqua river in Oregon because of six stepping stones. This story looks too much like a typical case of subsequent folk-etymology to engender much confidence. The usual assumption of an Indian origin, though not necessarily from a tribal name, is more credible. The source, if aboriginal, is, however, at least as likely to have been Oregonian as Californian.

Sisquoc, in Santa Barbara County, is unidentified. It looks to be Chumash Indian.

Skukum Rock, a mountain in Siskiyou County, is apparently named from the Chinook jargon word *skukum*, "strong." This trade dialect barely penetrated to the northernmost parts of California, and the name was therefore almost certainly applied by white men.

Soboyame, in San Diego County, may be Indian. It is unidentified.

Somis, in Ventura County, has a Chumash name, the appellation of a village variously rendered S'ohmüs, Somus, Somes, and Somo.²⁹

Sonoma County is named after the mission and city of Sonoma. The translation "valley of the moon" is fanciful. It has also been said, according to Barrett, *Pomo*, 313, that the term is of Spanish origin and was given as a name to a chief at Sonoma by the Spaniards. The last part of this statement is no doubt correct, since Dr. Barrett's Indian informants recalled a Coast Miwok chief, properly called Hoi-pustolopokse, who was commonly known as Sonoma. But there can be little doubt that as in the case of Solano the individual was so dubbed from the Mexican establishment. Dr. Barrett gives what must be regarded the most likely derivation when he says that there is, "in the village names of the Yukian Wappo dialect, the territory of which extends to within a few miles of Sonoma, a constantly recurring ending -tsō'nōma, derived from tsō, earth or ground, and nō'ma, village, as micēwal-tsō'nōma; and it seems probable that this is the true source of the name Sonoma."

Soquel, in Santa Cruz County, also written Shoquel in the name of the land grant, is a Costanoan village name. Alexander Taylor cites "Osocalis (Souquel)" as one of the rancherias from which the mission of Santa Cruz had neophytes.³⁰

Sotoyome, a land grant in Sonoma County, is given by Bailey as from Spanish *soto yo me*, literally, "forest I me," which he makes by a peculiar idiom into "my own forest." What is perhaps the same name in another spelling, Sotoyama, he interprets as a compound of Spanish *soto*, forest, and "Indian" *yama*, lake—which would be equally remarkable. Barrett, *Pomo*, 218, says that the chief of the Southern Pomo village of Wotokkaton (on the Luce Ranch a short distance upstream from Healdsburg and across the Russian River from the town), was known as Santiago; also as Manteca, literally "lard," evidently a Spanish nickname corresponding to English "Fat;" and also as Soto; and that "it is from this latter name that Sotoyome is derived, the latter part of the name signifying 'the home of.' " Whether Soto is a third Spanish name of this conspicuous individual, or Indian, is not certain; but it is clear that even if the word Sotoyome is good Pomo it is not an ancient name of a locality, for

²⁹ Handbook of American Indians, Bur. Am. Ethn. Bull. 30, part II, 615.

³⁰ California Farmer, April 5, 1860.

the California Indians, before contact with the whites, never based the permanent appellation of a village or locality on the name of a person. It seems therefore that Sotoyome is an Indian place-name formed by Indians from a personal name in Spanish times.

Soulajule, a land grant in Marin County, appears to be named from an Indian word, but this has not been identified.

Suey, a land grant in San Luis Obispo and Santa Barbara counties, bears an unidentified name. The only suggestion, and it is a slender one, is afforded by Suiesia, mentioned by Taylor²¹ as a Chumash village connected with Santa Ynez mission.

Suisun Bay, and *Suisun City*, in Solano County, bear the name of a prominent "tribe," that is, probably a village, of the Patwin or Southern Wintun Indians of this region. This village is often mentioned in Spanish sources, but has not been exactly located.

Surper appears on some maps as a settlement on the Klamath River, in Humboldt County. It is occupied only by one or two Yurok Indian houses, representing the former native village of Serper.

Suscol Creek, in Napa County, is the aboriginal Southern Wintun village of Suskol.

Taboose Pass, in the crest of the Sierra Nevada, and *Taboose Creek*, in Inyo County. Unidentified, but, judging from the sound, very likely of Mono Shoshonean origin.

Tache, *Laguna de*, a land grant in Fresno County, is named for the Tachi tribe of Yokuts Indians, who lived in the slough-intersected region at the outlet of Tulare Lake, near by.

Tahoe Lake is said to be named from Washo *tah-hoo-he*, "big water." This etymology is given by Bailey, and is also current. There is very little on record concerning the Washo language. Intrinsically the above derivation seems reasonable, but the accepted etymologies of California Indian names are so much more often wrong than right, that in view of the ordinary word in Washo for "water" being *time* and for "large," *tiyeli*, some doubt may not be hypercritical. Five minutes' unprejudiced inquiry of an intelligent elderly Washo would settle the point positively.

Tahquitz, one of the peaks of the San Jacinto Mountains in Riverside County, also a nearby creek, is named from Takwish (or Dakwish—one spelling is as correct as the other, since the initial sound is intermediate between English "t" and "d"), a mythological character of the Luiseño and Cahuilla Indians, associated with meteors or per-

²¹ California Farmer, October 18, 1861.

haps more exactly ball-lightning, usually pictured as a cannibal, and believed to have had his home, or still to have it, on or in Mount San Jacinto.

Taijiguas, in Santa Barbara County, according to Alexander Taylor, is named from a Chumash village.³²

Tajauta, a land grant in Los Angeles County, is named from an unknown source. If Indian, it would be from the Gabrielino dialect; and its sound makes such an origin possible.

Tallac, in Eldorado County, was, like Lake Tahoe, in Washo territory, but there is apparently no information available to show whether or not the word is Indian.

Tallowa Lake, a portion of Lake Earl in Del Norte County, is named from Tolo'okw, the Yurok name of an Athabascan village in the vicinity, the current ethnological designation of the tribe, Tolowa, deriving from the same source: *ni-tolowo*, "I speak Tolowa," i.e., the Athabascan dialect of Del Norte County.

Tamalpais Mountain, in Marin County, does not contain Spanish *pais*, "country." It is Coast Miwok *Tamal-pais*, "bay mountain." Barrett, *Pomo*, 308.

Tapo or *Tapu Canyon*, near Simi in Ventura County, is named from a Chumash original Ta'apu, "yucca," an inhabited site.

Tecopa, in Inyo County, is said by Bailey to have been the name of an Indian chief, which may or may not be the case. There is nothing in the sound of the word to prevent its having had a Shoshonean origin.

Tecuya or *Tacuya Creek*, in Kern County, and *Tecuya Mountain* at the head of this stream, are named after Tokya, the name applied by the Yokuts tribes to the Chumash Indians, a division of whom occupied the region in question.

Tehachapi, also *Tehichipi*, the famous pass, and a town and mountain range, in Kern County. The name is of Indian origin. The pass was in the territory of the Shoshonean Kawaiisu, but it has not been ascertained whether the word occurs in their speech. The Yokuts to the north, however, call the region, or some spot in it, Tahichipi, or more usually Tahichpiu, -u being the regular locative case ending.

Tehama County is, as Maslin says, named from an Indian "tribe," that is, Wintun village, which probably stood on the west side of the Sacramento River near or at the present town of Tehama.

³² California Farmer, October 18, 1861.

Tehipite Valley and Dome, on upper Kings River in Fresno County, appear to derive their name from an unidentified word of Mono origin. The location of the places and sound of the name indicate this.

Tejunga or *Tujunga* River, in Los Angeles County, is evidently a Gabrielino Shoshonean place name, as evidenced by the locative case ending *-nga*.

Temecula, in Riverside County, is Luiseño *Temeku*, meaning unknown, a village of this Shoshonean division. Kroeber, *Shoshonean*, 147. *Teme-t* is "sun" in Luiseño.

Tenaya, a stream and lake draining into Yosemite Valley, are named after a Miwok chief, head of the Yosemite Indians at the time of discovery.

Tepusquet, in Santa Barbara County, is a name that has the ring of a Chumash Indian word, but is of unknown origin.

Tequepis, a land grant in Santa Barbara County, is named from a Chumash village near San Marcos.³³

Terwah Creek, a northerly affluent of the Klamath River, in Del Norte County, is named from *Terwer*, as the Yurok Indians call it.

Tice Valley, in Contra Costa County. Unidentified.

Tiltill Mountain and Creek, in Tuolumne County. Unidentified.

Tinaquaic, in Santa Barbara County, has a name presumably of Chumash Indian origin, but unidentified.

Tinemaha, or *Tinemakar*, in Inyo County, may be of "Paiute" origin.

Tish-Tang-a-Tang Creek, in Humboldt County, is not, as given by Gannett and repeated by Bailey, a fanciful name indicating the splashing of water, but the American rendering of Hupa *Djishtangading*,³⁴ the name of a village at the mouth of the creek.

Tissaack, South Dome in Yosemite, is, *vide* Powers, 364, 367, Southern Miwok *Tisseyak*, the name of a woman who according to tradition was transformed into the mountain. California Indian legendary names of persons, however, almost always have meanings; and the significance of this word is not yet known.

Tocaloma, in Marin County, is given by Bailey as meaning "the hooded hill" in Spanish. This is improbable. *Toca* means a "hood" or "toque," but "hood-hill" would be *Loma Toca* rather than *Tocaloma*. The place is in Coast Miwok territory, and sounds like a Coast

³³ Alexander Taylor, *California Farmer*, October 18, 1861; April 24, 1863.

³⁴ Goddard, present series, I, 12, 1903: *Djictañadiñ*.

Miwok word. The ending suggests *-yome*, meaning "place" in this language; especially as *l* and *y* interchange in some Miwok dialects. It may be added that in Central Sierra Miwok dialect *tokoloma* means "land salamander."

Tolay Creek, in Sonoma County, appears to have an unidentified Indian name. There was a Coast Miwok rancheria Tuli near Sonoma City. Barrett, *Pomo*, 313.

Tolenas, or *Tolenos*, in Solano County, is apparently named from a South Wintun Indian village. Taylor, quoted in Bancroft, *Native Races*, 1, 452. Sanchez, 268, 436, suggests a misspelling of *Yolenos*, perhaps *Yoleños*, as the Spaniards might have called the Yolo Indians.

Toluca, "near Los Angeles, is probably derived from *Tolujaa*, or *Tilijaes*, a tribe among the original ones at San Juan Capistrano, although there is also a place named Toluca in Mexico." Sanchez, 439.

Tomales Bay, in Marin County, is from Coast Miwok *tamal*. "bay." There is no connection with Spanish *tamales*. Barrett, *Pomo*, 308.

Toolwass, in Kern County, is of unknown origin, but suggests *toloache*, often vulgarly pronounced *tuluach*, the Spanish name of the jimson-weed, *Datura meteloides*. This derivation, however, is only a guess.

Toowa Range, in Tulare County. Unknown, but a Shoshonean, probably Mono, origin is indicated.

Topanga, one of the three names of the Topanga-Malibu-Sequit land grant in Los Angeles County, also applied specifically to a canyon four miles west of Santa Monica, is a place designation taken from the Gabrielino Shoshonean dialect, as shown by the locative ending *-nga*.

Topa Topa or *Topo Topo* Mountain, in Ventura County, is a Chumash place name. Taylor gives *Topotopow*,³⁵ Henshaw's³⁶ and the writer's informants *Si-toptopo*; and Henshaw locates the rancheria at Nordhoff. The prefix *-si* in the Indian original means "his" or "its."

Truckee City and River, in Nevada and Placer counties, are named after a Northern Paiute chief. See Gannett. The word appears considerably corrupted, but the exact original pronunciation does not seem to have been recorded.

Tulucay, a grant in Napa County, is named from *Tulukai* or *Tuluka*, meaning "red," a Southern Wintun or Patwin village near the State Hospital at Napa. Barrett, *Pomo*, 293.

³⁵ California Farmer, May 4, 1860.

³⁶ Bur. Am. Ethn., Bull. 30, 11, 582 (â = o).

Tunnabora Peak, in the crest of the Sierra Nevada, near Mount Whitney. Unknown. Possibly Shoshonean, Mono dialect. Compare Tunemah Peak and Pass not far to the north.

Tuolumne County is evidently named after the river. According to Maslin, Tuolumne is a "corruption of the Indian word 'Talmalamne' which signifies 'stone house or cave'"—and which was the name of a large tribe of Indians who lived on both sides of the river." There was a tribe (Kroeber, *Miwok*, 373; Merriam, 351) called Tawalimni, Towolumne, or Tuolumne, possibly Miwok but more probably Yokuts, in the plains of the San Joaquin Valley in the vicinity of the lower Tuolumne and Stanislaus rivers up as far as about Knights Ferry. The word Tawalimni, which perhaps was really Tawalamni or Tawalumni, would easily give rise, in either English or Spanish, to Tuolumne. The signification is unknown, but its ending, *-imni*, *-amni*, or *-umni*, occurs in many names of Yokuts tribes and Miwok and Maidu villages in the valley portion of the San Joaquin-Sacramento drainage. Usually the stems of such words cannot be assigned a meaning even by Indians. The interpretation "stone house or cave" is very unlikely, since the California Indians never built in stone, and the term would therefore be applicable only to dwellers in caves or rock shelters, which demand a mountain habitat, whereas both the location of the Tawalimni and the distribution of nearly all Indian place names ending in *-imni* seem to be confined to the plains.

Turup Creek, in Del Norte County, is named from the Yurok village Turip, on the south side of the lower Klamath River.

Tzabaco, a land grant in Sonoma County, may bear an Indian name, though it suggests Spanish *tabaco*.

Ube Hebe, appearing on some maps as northeast of Independence, Inyo County, is an unidentified name.

Ukiah, the county seat of Mendocino County, is named after the Yokaya grant extending from about four miles north of Hopland to north of Calpella, and including, therefore, Ukiah Valley. The word, according to Barrett, *Pomo*, 168, is Central Pomo, *yo*, "south," and *kaia*, "valley." Yokaia is today the Indian name of a rancheria south-southeast of the city of Ukiah. Dr. Barrett says that the inhabitants moved to the site only since the American occupation, after their return from the former Mendocino reservation (on the coast between Noyo and Ten Mile rivers). The reservation was discontinued in 1867. Before the coming of the whites, according to the same authority, the people of the present Yokaia rancheria lived "chiefly at cō'-

kadjal (Shokadjal), a short distance northwest." The designation Yokaia is, however, unquestionably older than the modern Indian village, as shown by the grant name. Whether it originally applied to the entire valley, to a part of it, or to some native settlement in it, is uncertain, but the interpretation "south-valley" must be considered the correct one. M. A. E. Sherwood, cited by Barrett, *Pomo*, 169, is responsible for the definition "deep valley," repeated by Bailey. *Yo*, it is true, is "down," "under," or "hole" in several Pomo dialects, but appears normally as a suffix, whereas *yo*, "south," like other terms of direction, is regularly first in compound words.

Ulatas or *Ulatis* or *Ualtis* Creek, in Solano County, bears a name evidently connected with that of the South Wintun or Patwin Indian division called Olulato, Ululato, or Ullulata. Compare, Powers, 218, and Bancroft, *Native Races*, I, 452, 453.

Ulistac, a land grant in Santa Clara County. The word is obviously of Costanoan origin, as evidenced by the regular Costanoan locative case ending *-tak*, frequent on village names; but the name is not otherwise identifiable. It suggests Juristac, which see. *L* and *r* alternate in Costanoan dialects, and an initial *h* would be likely to be represented by *j* by one Spanish writer, and omitted altogether by another. *Ores*, "bear," and *uri*, *uli*, "head," "hair," or "forehead," are the only Costanoan words known to the author which suggest the stem.

Ulpinos—Rancho de los Ulpinos—a land grant in Solano County, is evidently named after the Chulpun or Khoulpouni Indians. The location of the grant, on the west side of the lower Sacramento river, would make these Indians of Wintun stock, according to all ethnological maps. Merriam, 348, however, declares the Hulpoomne (for the ending *-umni*, see Tuolumne) to have been a Northwestern (Plains) Miwok tribe whose principal rancheria was near Freeport, nine miles south of Sacramento City, and on the east side of the river.

Un Bully Mountain, between Siskiyou and Trinity counties, is in Wintun territory, and "Bully" is apparently Wintun *boli*, literally "spirit," but much used in mountain names: compare Yallo Bally. The meaning of *Un* is not known.

Unumhum, or Umunhum Mountain, in Santa Clara County, is named from an unidentified source.

Usal, in Mendocino County, pronounced Yusawl, was in Athabaskan territory but appears to be the Pomo word Yoshol, containing

the stem *yo*, "south." *Sho* is "east," and *-l-* an ending of terms of direction in the same language; but it is not known whether these elements enter into the word.

Wahtoke, in Fresno County, appears to be Yokuts *watak*, "pine-nut." A "tribe" called Wattokes, living "high up on King's River"—and therefore presumably Monos—are mentioned in the *Report of the Commissioner of Indian Affairs* for 1857, p. 399,⁸⁷ and elsewhere. This tribe has, however, not been identified.

Wanamina, in Shasta County, is unknown and may be Indian, coined, or borrowed.

Wapanse Creek, in Plumas County. The origin of the name is unknown.

Wasioja, in Santa Barbara County, is unidentified. The combination of Spanish *j* with *w* that does not occur in that language, suggests coinage or at best corruption.

Wassama Creek, in Madera County, is named from Was-sa'-ma, a Southern Sierra Miwok village on the stream, near Ahwahnee. Merriam, 346.

Wauhab Ridge, southeast of Sunol, in Alameda County. The name suggests an Indian origin but is unknown.

Waukell Creek, entering the Klamath River from the south in Del Norte County, has its name from the Yurok village Wohkel, "pepper-woods."

Wawona, in Mariposa County, is of unknown origin. It does not appear to be Indian.

Weeyot, in Humboldt County. From the current name of the Humboldt Bay Indians, Wiyot, which occurs in several neighboring native languages in this form or the variants Weyat or Weyet.

Weitchpec, in Humboldt County, from Yurok Weitspekw, a spring in the Indian village of Weitspus at the confluence of the Klamath and Trinity rivers, now called Weitchpec or Wichpec by the whites. The meaning of Weitspekw is not known; that of Weitspus seems to be "at the forks," since the Yurok give the same name to the former Hupa village situated at the junction of Trinity River with its south fork.

Winum Bully Mountain, between Shasta and Trinity counties, is from a Wintun original. "Winum" suggests *win*, the Central Wintun form corresponding to Northern Wintun *wintun*, "man," plus a

⁸⁷ Quoted in Bancroft, *Native Races*, I, 455.

case ending, or the stem *win*, *wini*, "to see;" and "Bully" is *boli*, "spirit," appearing otherwise in names of mountains in Wintun territory, as in Yallo Bally, which see. The meaning therefore is probably either "person's spirit" or "sees spirits."

Wynola, in San Diego County. Unknown.

Yajome, a land grant in Napa County, is unidentified and therefore probably Indian. The derivation from *Yayome*, from Spanish *ya yo me*, "already I me," supposed to mean "now I have arrived," is of course nonsense.

Yallo Bally Mountains, two peaks known as North and South, between Trinity and Tehama counties, are named from Wintun *yola*, "snow," and apparently *boli*, "spirit." (The Wintun *o* is open, like English *a* in "all"). The belief that peaks were the abode of spirits was common among the Indians of California. The element *boli* reappears, in the forms Bally and Bully, in Bally, Bully Choop, Winum Bully, and Un Bully, all of them peaks in Wintun territory.

Ydalpom, pronounced Wydalpom, in Shasta County, is from a Northern Wintun place name, in which *wai-* is "north," *-dal-* possibly means "lying," and *-pom* is "place."

Yokohl, in Tulare County, is named from a Yokuts tribe called in some dialects of that speech Yokol and in others Yokod. They were neighbors of the Kawia where the Kaweah River emerges into the plain. The name Yokol is not explained by the Indians, but suggests a connection with Yokuts, more exactly Yokoch, meaning "person" in that language.

Yolo County is named, as Maslin says, from *Yo-loy*, a tribal name. The "tribe" was of course a village, of the Patwin or Southern Wintun, which stood at Knight's Landing and was called Yoloi, or more probably Yodoi. Maslin's and Gannett's definition, "a place thick with rushes," is at best approximate; if that is what the Wintun meant, they would have said merely "rushes," or in California parlance "tules." This seems a reasonable name, but available Wintun vocabularies show only forms like *hlaka* and *hlop* for "tule," and nothing resembling *yodoi*. Barrett, *Pomo*, 294, quotes Miss Kathryn Simmons as mentioning a chief Yodo at Knight's Landing. Analogy with other cases would lead to the conclusion that this chief's name had been applied by the whites to his people and his village; but Dr. Barrett's Indian informants, and the author's, know of *yodoi* only as a place name, and one without meaning.

Yontockett School District, in Del Norte County, bears an unexplained name, which seems, however, to go back to the appellation of an Athabascan Tolowa village.

Yosemite is Southern Sierra Miwok for "grizzly bear," as usually stated, though like English "bear" it signifies the species in general and denotes a "fully grown" animal only in distinction from words perhaps corresponding to "cub." The Indian pronunciation is Uzu-mati or Uzhumati, with the *u* spoken with unrounded lips. The word seems to have been applied to the valley by Americans either through a misunderstanding or from a desire to attach to the spot a name which would be at once Indian and appropriate. The statement that the tribe owning the valley were known as "the Grizzly Bears" cannot be authenticated and is probably incorrect. The native name of the principal village in the valley, and by implication of the valley itself, was Awani, surviving in Ahwahnee, which see. Barrett, *Miwok*, 343.

Yreka, in Shasta County, for either the spelling or the pronunciation of which every literate Californian must blush—the word is spoken "Wyreka"—is said by Powers, 243, to be the word meaning mountain and the name of Mount Shasta in the Shasta language: *wairika*, properly *waiika*. The last syllable looks like the Shasta subjective case; compare Shastika and Shasta. *Wai-* means "north" among the neighboring Wintun; but the idiom of these Indians is totally different from that of the Shasta, and the resemblance therefore probably fortuitous. Dixon, in *Bulletin of the American Museum of Natural History*, volume 17, page 389, 1907, confirms Powers.

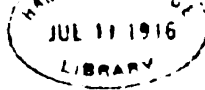
Yuba County is said by Maslin to be named from Yuba River, Spanish "Rio de las Uvas" or wild grapes. Uvas became Uva, then Uba, then, in American mouths, Yuba. This is almost certainly an imaginary derivation. Yupu, or Yuba, or with the nominative ending Yubam, also written in American spelling Yubum, was a Northwestern Maidu village near the mouth of the Yuba into the Feather River.³⁸ The name would apply also to the river, as according to Indian custom streams commonly bore no specific appellation, but were designated, when necessary, by the names of the places at their mouths.

Yucaipa, in San Bernardino County, takes its name from Serrano Shoshonean Yukaipa or Yukaipat, a place. Kroeber, *Shoshonean*, 134, *Cahuilla*, 34, 39.

³⁸ Handbook of American Indians, Bur. Am. Ethn. Bull. 30, part II, 1012.

Yulupa, in Sonoma County, near Santa Rosa. Unidentified.

Yuma Reservation, in Imperial County, opposite the Arizonan city of Yuma, is named after the Yuma tribe, the occupants, throughout the historic period, of the vicinity. The origin of the name Yuma has never been satisfactorily ascertained. The Yuma themselves, and the allied Yuman tribes such as the Mohave and Maricopa, do not accept the word Yuma as native, but call the tribe Kwichyana.



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ARAPAHO DIALECTS

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PART I DIALECTS OF THE ARAPAHO GROUP

THE DIALECTS

According to the latest authority, Dr. Truman Michelson,¹ the languages of the great Algonkin family fall into four primary, substantially co-ordinate, but very unequal groups. Three of these are Blackfoot, Cheyenne, and Arapaho. The fourth, or Eastern-Central, comprises all the other dialects of the family. The Blackfoot, Cheyenne, and Arapaho were buffalo hunters in the open plains. The other tribes with scarcely an exception were timber people. It is erroneous, however, to look for an exact repetition of this primary cultural cleavage in the linguistic organization of the family. The Blackfoot, Cheyenne, and Arapaho tongues are as distinct from one another as from the remaining languages. This fact had indeed been asserted, in so far as the imperfect evidence permitted opinion, before Dr. Michelson's exact comparative studies, and has long rendered very improbable, at least as regards the Blackfoot and the Arapaho, the prevailing assumption, which is still largely current, that all the Plains Algonkin tribes are recent offshoots from the main body of the stock in the wooded region. It cannot be emphasized too strongly that wherever these tribes may originally have lived, they were not, for a long time past, close relatives and perhaps not even neighbors of the Cree, Ojibwa, or any other known Algonkin division. The recent brilliant discovery of Dr. E. Sapir that the far-away Yurok and Wiyot languages on the Pacific Coast of California are Algonkin proves that the history of this great assembly of tongues cannot be deduced by any off-hand inference from recent habits of life or distribution of the Indian tribes involved. The writer believes that the Arapaho have been separated from the Central and Eastern Algonkins for more than a thousand years.

The Arapaho recognize five former divisions of their people. As placed by them in order from south to north, these were the Nāⁿwaḡi-nāhāⁿ or South-*f*-people, the Hāⁿanaxawūneⁿ or Rock-people, the Hinana'eⁿinaⁿ or Arapaho proper, the Bāsaⁿwūneⁿ or Wood-

¹ Science, xxxv, 675, 1912, and Bureau of American Ethnology, Twenty-eighth Annual Report, Washington, 221-290, 1912.

house-people, and the Hitōune'na^a or Begging-people. The last are the tribe that calls itself Ha'a'ninin and has long been known as Atsina or Gros Ventre of the Prairie. The Arapaho proper have for a considerable time been divided into a northern and a southern branch. As the language of these two halves scarcely differs even dialectically, the distinction, however important historically, may be disregarded in the present connection.² The three other tribes have long since coalesced with the Arapaho. The Bāsa^awūnena, whose dialect was very similar to that of the Hinana'eina^a, are still to be found among them in some numbers, though without any identity as a separate group. A very few people remembering something of the Nā^awaʕināhāna^a dialect were living in 1899. From one of these was obtained the brief vocabulary given below. This dialect is more divergent from Arapaho proper than either Bāsa^awūnena^a or Gros Ventre, and, at least superficially, shows some resemblance to Cheyenne. No one was found who remembered the speech of the Hā^aanaxawūnena^a, which is said by the Arapaho to have been the most different from their own. One of their submerged dialects, probably this Ha^aanaxawūnena^a tongue, some Arapaho declare to have been intermediate between their own speech and Blackfoot. The statement is here made only on Indian authority. It is not impossible that some specimens of this speech may yet be recoverable by careful search among the Arapaho.

A brief comparative vocabulary of the four dialects on which material could be obtained is appended. This is unfortunately badly selected, and the phonetic perception and rendering are no doubt inadequate even for Arapaho and Gros Ventre, which the author had ampler opportunity to hear. Further, the words in the two other dialects were obtained from people who no longer habitually used them, perhaps had never done so. Still, the lists contain new information, which may never be duplicated, and are therefore given with all their imperfections.

² Mr. James Mooney (Bur. Am. Ethn. Ann. Rep., xiv, 954, 1896, and Bur. Am. Ethn., Bull. 30, 73, 1907), gives the five Arapaho subdivisions differently, apparently through identifying the Nā^awaʕināhāna^a with the Na^awuina^a, the southern half of the Arapaho proper. He therefore virtually omits the former and exalts the southern branch of the Arapaho into a distinct division. Politically this may be correct for recent centuries, but the existence of a markedly separate Nā^awaʕināhāna^a dialect, as discussed below, necessitates the recognition of this people, instead of the southern Arapaho proper, as one of the five divisions, from the point of view of language and earlier history. The only alternative is to assume the specimens of speech obtained as Nā^awaʕināhāna^a to be not Na^awaʕināhāna^a, but Hā^aanaxawūnena^a, a proceeding which would reconcile all conflicting statements, but which would be arbitrary.

COMPARATIVE VOCABULARY

English	Arapaho <i>Hinana'eina</i> ^a	Southern People ¹ <i>Nā'wabināhāna</i> ^a	Wood-lodge People ² <i>Bāsa'wūnena</i> ^a	Gros Ventre <i>Ha'dninin</i>
1	tcāseix	tcā'eilaha's	nāniseici	tcāseity
2	nisi	nisāhā'	nānisehi'	nīā
3	nāsa ^a	nahaha'	nānāsei	nāā'
4	yein'	niabaha'	yānānei	yāni
5	yāān'	niotanāhā'	yanaāni'	yātani
6	nita'tax ^a	neixōiōti	nitcātax	neityā'tos
7	nisa'tax ^a	niciota ^a	nisa'tax	nīā'tos
8	nāsa'tax ^a	nexiotāhāhā ^a	nānāsa'tax'eit	nāā'tos
9	ōi'	ciōxtāhāhā ^a	ciōtaxahei	ā'hābetā'tos
10	bātātāx ^a	maxtōxtāhāhā ^a	bātātōxe	betā'tos
man	hinen'	hiten	hini	hineni
woman	hisei	hihi'i	hisāna ^a	hiā
child	teia ^a	hakutsa'anāhā ^a	teia'nihi'	teia'nā
white man	nih'ā'āna ^a	matsōhūā	ni'ā'ā ^a	nix'ā't
father	neisana ^a	hiōextin	hisānānin ^a	nīōina ^a
mother	neina ^a	hāietin	neinah ^a	neina ^a
elder brother	nāsāhā'	nixtsia ^a	nih'sa ^a	nāāhā'
son	neihā'	neictā'	neihā' ^a	neihā'
daughter	natane	naxtānāhā ^a	natānā ^a	natān
grandfather	nābāciā	(h)amacim	nābāciāhā ^a	nābeseip
grandmother	neibāhā ^a	(h)ih'i'im	neibāhā ^a	niip
grandchild	neici	ni'icitāhā ^a		nīāsā
eye	bāciā	masixsan	hicisā	besō
nose	beic	maic	hiōcā	beic
mouth	bāti	matin	hiōcinā	betyi'
tooth	beiteiō	meiteixta	hiniteic	bitsit'
tongue	beioān		hiniōān	biitani
ear	wanatana'		hinatana'	wānōtan
neck	bāsona ^a		hisa ^a	wāāna
belly	wanot	moxta ^a , monoxta ^a	hinot ^a	wanot ^a
hand	bācēt		hitcēt	bātyetyi
foot	wa'a'ō'	mo'oxts	hi'ā'c	wa'a'ts
house	nina ^a	mī'in	nina ^a , nī'in ^a	nin, nīn ^a
house	ha'ā'wu	hā'axamunō	ha'ā'wu ^a	
bow	bātā	ma'axta	bātā ^a	bāt
arrow	hoō'	hot	hoōi ^a	hotsi
sun, luminary	hicis	hicihiā ^a	hicis ^a	hisōs
star	haā'a ^a		haā'aha'a ^a	hatou
water	netc'	netc	netci ^a	nets, nits
river	niteiye	tite	niteiye ^a	nitsā ^a
stone	haha'anā'kā ^a	haxta ^a	haha'anā'kā ^a	axa'anā'tyā ^a
earth	bita'ā'wu	mixta'amu	bita'awu	bita'awu
fire	icitā ^a	ih'icitā ^a	hixt, ih'tā ^a	isōtā ^a
wood	bāc', bāx-	ma'	bāci, bāx	bis
metal	beiteiōei	māhi'itsitā	beiteiōei ^a	beitsit
road	ba'a ^a	mihia ^a	ba'ah ^a	
tree, cottonwood	hahā't'	hōxtōxt	hahātei ^a	hahā'tina ^a (pl.)
grass, medicine	waxu'	maxsou	waxu', ^a waxuina ^a (pl.)	wasiina ^a (pl.)
horse	hiwaxuhā'x-ābi (pl.)	masoutihem	hiwaxuhāā ^a , ^a hi- waxuha'xeb (pl.)	hiwas'hā ^a
dog	heō-ābi (pl.)	hatam	hāā ^a , ^a hāābiha ^a (pl.)	hote
buffalo bull	hanā'tcā ^a	hitā'mō ^a	hānā'tcā ^a	hānā'tyēi
buffalo (herd)	hiōcina ^a		hiōcinan	hitā'nān
deer	bihi'i	mixtihi	bihi'i ^a	bihi'i
antelope	nisitcā ^a , na'sitcā ^a	trāsitcā ^a	nietcā ^a	na'sity
elk	hiwax ^a	himaxsout	hiwax ^a	hiwasō ^a
mountain sheep	hotā'	hōxtāhā ^a	hotā' ^a	hote

English	Arapaho <i>Hinana'eina</i> ^a	Southern People ¹ <i>Nā'wašināhāna</i> ^a	Wood-lodge People ² <i>Bāsa'wūnena</i> ^a	Gros Ventre <i>Ha'āninin</i>
beaver	hābāc	hamaha'	hābāc*	hābes
rabbit	na'k"	mā'kut	na'k**	na'tse
bear	wox"	mahom	wox*", waxuina" (pl.)	was
wolf	hā'xei		hā'xē*	hā'θei
skunk	xouhu	saoθ	xouhu*	θouu
eagle, bird	ni'ihī	tcāsei	ni'ix	ni'ihī
crow	hou	hahāha'	hou	ouu
magpie	wa'uei	mouxtiā		wouxei
turtle	bā'āna*	ma'āna'hā	bā'ān*	bā'ānou
supernatural	nānābā'āna*, bātāna"	nānamātīt	tanānābā'āna"	bātā-
large	bānāsa*	mānacie	bānāsa*	bāsōu
white	na'k-	wanātsiā	na'k.*	nanā'tsa
black	wa'otā	moxtsiā	wa'otā*	wa'otā'ya"
red	bā-	maoxtaheini		baxa'a"
yellow	niha'ya"	hitianie	niha'ya*	niha'ya"

NOTES ON VOCABULARY

¹ From Tall Bear.

² Unmarked words from the wife of Row-of-Lodges; starred words from Tall-Bear.

³ An l was recorded, but seems doubtful, as the Arapaho ordinarily are unable to pronounce this sound. The word for "rain" in the same dialect was, however, recorded both as hā'sivaxta and hā'silaxta.

⁴ "Small." Evidently contains the diminutive suffix, as does the Bāsa'wūnena" form.

⁵ The manuscript record may be read either with final s or θ.

Additional Words—Arapaho Proper

young man	hanaxa'aha	mountain	hā'āni'
young woman	hiteiya"	night	bika"
old woman	bātābi(ā)	moon	bikōsis
old	bāhā'ei, behi'ī	sky, cloud	hana"
human being	hinenitā	thunder	baxa'a"
ghost	θik"	fog	bā'āna"
head	hakuhā	creek	kaha'a"wu
hair	beiθe'ā	snow	hī
throat	beita"	tent pole	hakā"x
bone	hixu	robe	hou
heart	bātā	awl	bei
arm	bānec	dress	bixūti
elbow	bātic	bed	hā"
sinew	haotā	boat	θiwu
milk, breast-water	bāθenetc ¹	meat	haseinou
penis	haθā	pipe	= rib
testicle	bāθās	tobacco	ciśā"wa"
vagina	hāhāte	corn	beckatāna"
tail	bātihi'ī	fruits	bina"
rib	hītea"	bush	bic
liver	hic	coyote	ka'a"
kidney	hitīθiθ	buffalo cow	bii
blood	bā	fly	noubā
excrement	bā. bi-hiθ	louse	bātei
shadow	bātāθa"	worm	bisā", hisa"na"
shaman	bātāt	fish	nawat

Some of the more readily noted correspondences in sound between Arapaho and the other Algonkin languages, and within the Arapaho dialects, will now be given. There is no pretense that these observations are complete. The material used in the comparisons is familiar to students of the subject in the works of Baraga, Jones, Lacombe, Hayden, Rand, Petter, besides many others whose efforts have not been drawn upon. For this reason the Indian forms of the words referred to in English have not been given. The few who may follow up the present suggestions can verify them with ease, and will be at least as familiar with the material as the writer. The following abbreviations have been used to designate groups, languages, and dialects:

E-C	Eastern-Central Algonkin
Mi	Micmac
F	Fox
O	Ojibwa
Cr	Cree
Ch	Cheyenne
Bl	Blackfoot
A	Arapaho group of dialects
Ar	Arapaho proper
GV	Gros Ventre
B	Băsa ^a wūnena ^a
N	Nă ^a waŋinähāna ^a

Of the symbols used, *c* is *š* or *sh* as customary in American philology, *θ* is the same as English surd *th*, *x* is a surd fricative approximately in *k* position, *ä* is *a* as of "bad" in American English, *äⁿ* and *aⁿ* are nasalized vowels, *ö* is somewhat as in German, but probably unrounded, and *ʔ* is the glottal stop.

EXTERNAL PHONETIC CORRESPONDENCES OF THE GROUP

K

Assuming the Eastern-Central group of dialects, in which are included the great majority of those belonging to the family, to be most representative of the original or former condition of Algonkin, it is clear that original *k* is but rarely retained in the Arapaho division. It appears most commonly as *s* or *h*, or is entirely lost or represented only by a glottal stop.

k > *k*: wolf. Ch, Bl, A.

k > *t*: black, E-C, *k*; Ch, *xt*; A, *t*.

k > *tc*: metal. Ch, *k*; Bl, *ks*; A, *tc*.

k > *s*: neck, nose, eye, woman, antelope, one. Ch shows *k*, *x*, *ts*. GV usually has *θ* for *s*.

k > *h*, *x*: beaver, deer, bone, bear, sun, skunk. E-C has *k* or *sk*; Bl, usually

k; Ch is variable.

k>'—: bow, turtle, red, star, eagle, foot, nine. E-C again shows sk as well as k, also kw. Ch usually agrees with Arapaho, while Bl oftener retains k, but is variable.

T

Algonkin dental stops seem to be of two kinds. One appears with but little variation as t in all dialects, including Arapaho. The other varies between t, d, n, and l in the Eastern-Central group, is t in Cheyenne as in Gros Ventre and Nāⁿwaŋināhānaⁿ, but θ in Arapaho proper and Bāsaⁿwūnenaⁿ.

t>t: bow, heart, fire, night, daughter, buffalo bull, ten, reflexive suffix. Bl has some inclination toward ts or st, N toward xt.

t, d, n, l>θ: tongue, tooth, foot, star, metal, dog, five. Mi, t, d, l; O, d, n; Bl, tʃ, kʃ; Ch, Na, GV, t; Ar, Bā, θ.

t>tc: pipe, mouth, six. E-C, t; Bl, —; Ch, ʃ; Bā, GV, tc; Ar, t, tc.

P

Original labial stops begin to be lost or altered as soon as the Eastern-Central division is left behind, and seem to have disappeared entirely from the Arapaho group.³

p, b>k: rabbit, white, sit, sleep. E-C, p, b; Bl, p, k; Ch, k, x; Ar, Na, Bā, k; GV, ts. These are the principal occurrences of k in Arapaho that the author can account for by any phonetic rule.

p, b>tc: tooth, water, night. E-C, p, b; Bl, Ch, p w; A, tc.

N

N usually recurs unchanged in all Algonkin groups, though in some stems the sound varies between n and y. There may be two distinct original sounds involved.

n>n: bone, man, daughter, turtle, one, two, three, six, sing, water, fish, drink. In the last three stems n sporadically supplants n.

n, y>n, y: tongue, mouth, neck, wolf, four, five, sleep. All dialects except Mi and O have y in some of these stems. F and Na show ny.

M

M of original Algonkin seems to be retained quite regularly in Eastern-Central, in Blackfoot, in Cheyenne, and in the Nāⁿwaŋināhānaⁿ dialect of Arapaho. In the three other Arapaho dialects it is entirely lacking, and replaced by b and w. As between these two

³ E. Sapir, *American Anthropologist*, n. s., xv, 538, 1913.

sounds, the rule is that *b* occurs before the front vowels *i*, *e*, *ä*, *äⁿ*, and *w* before the back vowels *u*, *o*, *a*, *aⁿ*.⁴ This is a consistent phonetic law of Arapaho; even within the dialect the same stem changes from *b* to *w* if the vowel becomes a back one. Compare Ar *neibähäⁿ*, my grandmother, and *hiniwahaⁿ*, his grandmother. It is also illustrative that in trying to say the English word "buffalo," the Gros Ventre, whose idiom follows the same law, speak *waʃanou* instead of *baʃanou*. All Arapaho labial sounds seem to be derived from original *m*.

m > *b* (*i*): eat, defecate, give, dog, deer, earth.

m > *b* (*e*): metal.

m > *b* (*ä*, *äⁿ*): blood, red, bow, wood, turtle, beaver, ten, drink.

m > *w* (*a*, *aⁿ*, *o*): bear, fish, grass, black.

In a few words *m* changes to *n* in Arapaho. In these Cheyenne has *n* also.

m > *n*: eagle, house.

W

A more remarkable change is that of original *w* to Arapaho *n*. This probably represents the transition *w* > *m* > *n*.

w > *n*: buffalo herd, antelope, rabbit, white; perhaps also ear. Ar, Bā, GV, regularly *n*; Na, sometimes *m*; Ch, Bl, E-C, *w*.

S

Eastern-Central *s*, like *t*, sometimes recurs in Arapaho, sometimes becomes *θ*. There is thus the possibility that eastern *s*, with which *c* (*sh*) has been included, represents two sounds originally distinct.

s > *s*: sun, fire, wind, rain, tobacco, two, three. Bl, Ch, and Na show —, *h*, or *x* frequently. GV alone has *θ* sometimes: tobacco, two, three.

s > *θ*: hair, nine, eat, defecate. E-C, *s*, *tc*, *dj*; Ch, Na, *s*; Ar (and Bāʔ), *θ*.

s > *h*: stone, yellow. A dialects have *h*, except Na *t*. Perhaps allied to the change *k* > *s*, *h*.

VOWELS

The vowels of Arapaho also evince fairly regular correspondences with those of other dialects, though the cause of their most marked peculiarity, the frequent nasalization of *ä* and *a*, is not clear to the writer. Counting *äⁿ* and *aⁿ* for the present with *ä* and *a*, four principal equivalences are noticeable.

⁴ *bä'aⁿ*, road, and *baha'aⁿ*, thunder, are exceptions noted in simple stem words.

	Mi	F	Cr, O	Bl	Ch	Na	Ar, Bā, GV
Type 1	i	i	i	i	i	i	i
Type 2	var.	ä, e	i	(i)	(i)	a	ä, e
Type 3	a, o, u	a	a	a, o	o	a	a
Type 4	var.	a	a	var.	o, u	o, u	u

It is evident that there is a special similarity between Fox and the Arapaho group, at least under the orthographies that have been employed; that Nāⁿwaʃinähānaⁿ leans towards Cheyenne; that the latter favors a sound usually written o,⁵ and Blackfoot the vowel i.

Type 1—i>i: nose, eye, tooth, sun, fire, water, eat, defecate, give, two, reflexive suffix. GV alone several times has ö, which in most its occurrences in that dialect seems to replace Ar i.

Subtype 1a—i, e>i: woman, pipe, six. F, e; Cr, O, Bl, Ch, i, e, a; A i, sometimes ei.

Type 2—i, ä>ä: heart, bow, wood, dog, beaver, turtle, red, drink, two, three, four, ten. Mi, i; F, ä; Cr, O, i; Bl, Ch, i often, but not always; Na, ä, oftener a; Ar, Bā, GV, ä.

Subtype 2a—i, e>e: hand, man, water, metal. Mi, i; F, e; Cr, O, i; Bl, i; Ch, a back vowel; Na, e, ä; Ar, Bā, GV, e.

Type 3—a>a: daughter, wolf, buffalo, rabbit, turtle, fish, star, stone, pipe, yellow, jump, sleep. Mi, back vowels, possibly only variant orthographies for a; F, Cr, O, a; Bl, a or o; Ch, o; A, a, aⁿ. GV occasionally shows ou.

Subtype 3a—Same, except Bl i, A sometimes ä: tongue, neck, beaver, dog, five, ten.

Subtype 3b—Same, except Ar, and sometimes other A dialects, open o for a: neck, bear, black, sit.

Type 4—a>u: bone, bear, skunk, rabbit, grass.

INTERNAL PHONETIC CORRESPONDENCES OF THE GROUP

BASAⁿWUNENAⁿ

Within the Arapaho group, Bāsaⁿwūnenaⁿ differs little from the principal dialect. S or c sometimes appears for θ, as in tooth, foot, white man. This is not a reversion to original s which Arapaho θ at times represents, but a further specialization, since Arapaho θ in these words stands for original t. On the other hand, Arapaho s, or c, becomes θ in Bāsaⁿwūnenaⁿ in the word for nose, and x in fire and wood. In other stems Arapaho θ, s, and c recur unchanged in Bāsaⁿwūnenaⁿ. T occasionally appears as tc: tree, mouth, six, ten.

All the Bāsaⁿwūnenaⁿ body-part terms obtained from both informants begin with the possessive prefix of the third person hi-, instead of the indefinite wa-, bā-, of Arapaho, which elsewhere in the family is represented by ma-, mi.

⁵ Petter, Mem. Am. Anthr. Ass., 1, 448, 1907, denies that Cheyenne properly possesses the vowels i and u.

GROS VENTRE

Gros Ventre presents greater changes.

Ar *x* > GV *s*: grass, elk, bear, eight, ten. GV evidently clings to the older sound which Ar has altered.

Ar *x* > GV *θ*: wolf, skunk. GV apparently has specialized.

Ar *θ* > GV *t*: tongue, white man, dog, buffalo, buffalo herd, star, metal, five, "nephew" (when not called "son"), father-in-law, son-in-law, brother or sister-in-law of opposite sex.⁶ Comparison shows Gros Ventre to be the more conservative, as the Ar sound stands for original *t*.

Ar *θ* > GV *ts*, *te*: foot.

Ar *t* > GV *te*, *ty*: mouth, hand, six. Bā shows a similar tendency. In many other words, on the other hand, such as ear, belly, fire, mountain sheep, black, eight, ten, both Ar and GV have *t*.

Ar *s*, *c* > GV *θ*: eye, neck, woman, tobacco, two, three, seven, eight, father, older brother, "niece" (when not called "daughter"), daughter-in-law, wife.⁶ In some of these words Ar *s* represents original *s* or *h*, in others original *k*. In other instances Ar *s* of both origins remains *s* in GV.

Ar *te* was usually heard as either *ts*, or *ty*, nearly *ky*, in Gros Ventre.

Ar *k* > GV *ts*: rabbit, white.

Ar *i* > GV *ö*: eye, sun, fire.

NÄ^{wu}θINÄHÄNÄⁿ

Nä^{wu}θinähänäⁿ not only departs farthest from Arapaho proper but stands nearest of the known Arapaho dialects to Cheyenne and Eastern-Central. It presents enough peculiarities, however, to be more than a mere transition.

Nä^{wu}θinähänäⁿ agrees with Cheyenne in retaining *m* which Arapaho has converted to *b* and *w*; in fact the dialectic pronunciation of "Washington" was given as *mōⁿeten*. It agrees with Cheyenne and Ojibwa in having *w*, or *b*, in certain words which possess *n* in Arapaho. Like these two dialects, it shows *n* as the initial of the words for four and five, where Arapaho has *y*. In all these points it departs from the Arapaho group of dialects in the direction of the Central and Cheyenne groups.

As regards *s* and *h* sounds, correspondences of all three types, *s* > *h*, *x* > *s*, *s* > *s*, are found between Arapaho and Nä^{wu}θinähänäⁿ. Arapaho *x* is probably an *h* with partial stricture rather than a true palatal fricative. In place of it Nä^{wu}θinähänäⁿ sometimes has *s*, sometimes a sound written *xs*. In "bear" *h* equals *x*.

Arapaho *θ* was usually rendered by *t*, once or twice by *s* and *ts*, in the Nä^{wu}θinähänäⁿ words obtained. Three words in this dialect

⁶ Bull. Am. Mus. Nat. Hist., xviii, 9, 1902.

were recorded with *θ*, but the sound does not agree regularly with any Arapaho sound in these cases, and must be considered doubtful.

Arapaho *ä* was sometimes rendered by *ä* in *Nā^{wuθi}nähānaⁿ*, sometimes by *a*. *Ei* becomes *e*.

The *x* or *h* so frequently written before *t*, *ts*, and *s* in *Nā^{wuθi}nähānaⁿ* causes the suspicion that the informant was exaggerating a real or imaginary greater degree of aspiration, either of vowels or of consonants, than he believed Arapaho to possess. It seems somewhat doubtful whether full *xt*, *xts*, and *xs* were really spoken. Cheyenne, however, shows a similar parasitic *x* or *h* before *t*, as well as before *k*. Yurok also has *xk*, and Fox 'k.

PART II

SKETCH OF ARAPAHO PROPER

PHONETIC ELEMENTS

It is fourteen years since the writer has heard Arapaho or Gros Ventre. At that time his understanding of the nature and formation of spoken sounds was vague. Some experience with and much interest in the two languages have, however, left many distinct motor impressions of words; and a comparison of variant orthographies makes other points clear which inability of interpretation rendered baffling at the time. The following notes may therefore still have some value.

Arapaho vowels are:

- u, ū, open.
- o, very open, often confused with a^a; long, ou.
- a^a, ā^a, nasalized, possibly spoken with the tongue slightly more raised than in the following.
- a, ā.
- Λ, less clear than a, was often written, but not regularly, and has been omitted from the present orthography.
- ä, å, as in American English "bad."
- ä^a, å^a, nasalized.
- e, very open, sometimes resembling ä; long, ei.
- i, ī, open.

Gros Ventre adds to these a mixed vowel ö, sometimes heard as almost o, sometimes as ü. This is a derivative from i. Arapaho ei was sometimes heard with an approach to the quality of öi.

The extreme openness of most of these vowels, as well as the presence of ä, are conspicuous resemblances to the phonetics of Yurok, now that Dr. Sapir has shown the connection.

Long vowels are more or less doubled. See text III, note 1.

Final vowels, unless long or accented, are surd or whispered. The nature of surd vowels was not understood by the author at the time his notes were recorded; they were therefore sometimes omitted, sometimes written as sonant, sometimes indicated by small superior characters. So far as it could be restored with what seemed reasonable safety, the latter orthography has been employed in this paper. The writer is strongly of the impression that no word in Arapaho really ends in a consonant, a final surd or sonant vowel being always present;

but proof or disproof of this belief must be left to future investigators. Gros Ventre may furnish an exception in the case of final surd *n*; but this sound seems to owe its quality to the surdness of the preceding vowel. In Gros Ventre, also, the surdness of final vowels seems more complete than in Arapaho.

Vowels followed by a glottal stop (') show usually, perhaps always in distinct speech, an echo. *Nähä* and *nähää*, this, were written indiscriminately for *nähä'ä*, perhaps more exactly *nähä'^h*. The orthography *nähä'* should be sufficient.

Arapaho consonants:

k, *t*, and *tc* (English *ch*) are probably sonant during part of the explosion, as in so many Indian languages. The *g* mentioned by Dr. Michelson was not observed. When final, these stops seem to be entirely surd, and their explosion takes on a vowel color.

In Gros Ventre, *tc* is replaced by two sounds: *ts*, the general equivalent of Arapaho *tc*, and *ty*, which often stands for Arapaho *t*. The two are however not as different in articulation and sound as the orthographies might indicate. *Ty* seems to be a very posterior *t*; it is sometimes heard as *ky*, and the Arapaho so render it in trying to reproduce Gros Ventre.

b is a full sonant, as would be indicated by its origin from *m*, and by its alternation, both in Arapaho and Gros Ventre, with *w*.

w, *y*, and *n* need no discussion. Gros Ventre surd *n* has been mentioned in connection with the surd vowels.

s and *c* (*sh*) are difficult to distinguish. They were very much confounded by the writer, though he is inclined to consider them two sounds.

x and *h* were also much confused. It seems that *x* is really an *h* with considerable stricture, and that *h* is fainter than in English, so that *h* and '^h might have been better orthographies. If this is the case, the nature of the two sounds is the same as in Yana, Mohave, and other Californian languages.⁷ In Gros Ventre initial *h* is particularly faint, and was often not heard. Final *h* or *x*, that is, *h* followed by a surd vowel, is strong in both languages.

θ is a surd dental fricative like English *th* in *thin*.

Vocalic changes are illustrated throughout the grammatical and textual material presented below, but are very complex. Changes proceed from stem to suffix, from suffix to stem, and from stem to prefix; they are sometimes in the direction of assimilation, at other times of contrast. Consonant alterations, especially between *b* and *w*, follow the vowel changes. Here again the similarity of process to Yurok is marked.

Consonantal changes are also somewhat obscure, but it is of note that in part at least they follow the interdialectic equivalences between Arapaho and Gros Ventre.

⁷ Present series of publications, *x*, 62, 1911.

COMPOSITION

The intricate subject of word composition is too little plain in Arapaho to allow of more than a listing of some of the principal forms which word compounding has been observed to take. These comprise nouns containing two or more elements used also as independent words, a few words containing elements occurring only as "prefixes," and a larger number ending in elements which are always "suffixes." Verbs consisting of two verb stems, or of a verbal and an adverbial stem, are more conveniently considered in connection with the subsequent section treating of the structure of the verb.

A. NOUNS COMPOUNDED OF TWO SEPARATE WORDS

Noun and noun, the first determining the second:

hā-n-isei, "Bed-Woman"
 heθa-bic, dog bush
 heθa-w-a^{wu}, dog lodge
 hi-tee'äox-a^{wu}, club lodge, club dance
 bisä-n-ox^{ina}, worm weeds
 waxu-sei-na^a, bear, women
 niteihe-hinen, Kiowa (niteiye, river)
 nih'ä^θ-ousei, white-man woman, American woman
 ciciyē-n-axu, snake weed, snake medicine

Verb with a noun as its object, which can also be used as a separate, independent substantive:

wan-isei-nä-hiθi, they go after women, burrs
 noti-sei-n-ä^t!, looks for a wife
 hi-netci-bi-niθ!, the giver of water, he who owns the waters

It will be seen that the noun comes before as well as after the verbal element. It is not certain how far these examples are to be interpreted as being verbs or as being nouns. Hence the term "incorporation" is avoided for them.

Noun with following verb or adjective stem, the former determining the latter, but the entire word being nominal. It will be seen that the majority of the forms are proper names. Compare the verbal suffix -ni.

ha'äti-n-aha^{kä}, "Lime Crazy"
 wax-tciyei, "Bear Creeping" (cici, creep)
 wax-kukatäni, "Bear Spotted (Is)"
 hā^{xä}-ba'äni, "Wolf Red (Is)"
 hisei-waotäⁿⁱ, "Woman Black (Is)"
 icitä^a-küθa^a, fire drill

Verb, adjective, or adverb preceding and determining a noun:

h-axā^θ-inenina^a, funny men, name of a band (axā^t-ēhi, laughable)
 na^awu-nenitāna^a, south people
 hawah-a^awū, many houses, town
 ha^awā^a-ū-n-anaxa 'ahā, praying young man
 hābāt-ā^θ, large dog (he^θ)
 hābāt-ā^axe, large knife (wā^axe)
 hābā^θ-inenⁱ, large man
 hābā^θ-i-waxū, large bear (wox^u)
 hātca^a-ā^axe, small knife
 hātca^c-inenⁱ, small man
 kaha 'ū-ci-nin, half a day
 haseihi-n-axucitana^a, sacrifice (sun dance) paintings
 niha^a-n-ouha^a, yellow buffalo calves (wou)
 waotā^a-n-ou, black crow (hou)
 kā^aku-na^atinei, "One-eyed Sioux" (ka^akou-iyā^a, patch on)
 ka^akuiy-ā^θābi, scabby dogs
 hā^t-etcⁱ, large water, ocean (netcⁱ, water)
 cītei-nā-waxu, lasting weed (cīcītei, stretch)
 tcāyataw^a-inenitā^a, untrue person, spirit
 θawa^θ-inenitā^a, real person, human being

B. NOUNS AND VERBS FORMED WITH PREFIXES

wot-i-, in fire, into fire.

woti-tan-ēhi, fire-starter
 wotⁱ-tanā-tanā-na^a, they burn it
 hāⁱx-woti-θ-a^a, they put him in the fire
 woti-ka^ahu-na^a, they ran into the fire
 woti-tanā^a, added wood to the blaze

sā 'ā-, sā 'i-, flat.

sā 'ā-bāxa^a, flat wood, boards
 sā 'ei-tca 'a^a, "flat" (straight tubular) pipe
 sā 'ā-hi^θi, flat ones, bedbugs
 tah^a-sā 'i-ci, after she lay
 sā 'ā-beitci^ā, flat metal, spade
 sā 'i-ce-θāna^a, roof
 sā 'ā-sana^a, sliced meat
 hāⁱx-sā 'ā-se'esī, then cut them into slices
 sā 'i-θi-xa-h-u^θenⁱ, I peg you out flat
 sā 'i-θi-xa-h-un, the crucified one, Christ
 sā 'i-ci-w-anaxa 'ā, "Lie-abed-long Young-man"

nā-, relating to clothing.

nā-tā^anei, take off moccasins
 nā-tatahā^a, take off leggings
 nā-θibi, take off clothes
 nā-ya^a-un, dress!

kaka-, relating to mental action.

kaka'-u^oetca-na, thoughts

kako-xa'änäta, think about it

C. NOUNS AND VERBS FORMED WITH SUFFIXES

-i-ni, on measures of time. Compare the suffix -in¹ on the numerals 11 to 19, which is no doubt the same.

kahaü-ci-ni-n, half a day

tihi'-si-ni, yesterday

tayu-ni-n¹, tatayou-ni-n¹, autumn (tai, cold)

teätei-n¹, winter, year

isibi-ta-ni-ni, bedtime, time for lying down

xä'täei-ni-n¹, shortly after, sometime later

tah'-tcäni-bihiya-ni, when it was late in the night

-ätit¹, on names of ceremonial acts. The last part of this suffix is almost certainly an ending denoting the third person.

teä'-ätit¹, welcoming

teeita-h-ätit¹, ear piercing

tiara-n-ätit¹, foot touching, an invitation

teäteci-n-ätit¹, untying, a redeeming

teaou-teäbi-h-ätit¹, foe-shooting, the settling of a dispute by a game or test

-ah^awä^at¹, dance. Also seems to contain the ending of the third person.

hou-n-ah^awä^at¹, crow dance

hasa-n-ah^awä^at¹, rain dance

nou-t-ah^awä^at¹, dancing out of sun dance

ka'ei-n-ah^awä^at¹, round dance, ghost dance

tawa-n-ah^awä^at¹, cutting dance

na^a-n-ah^awä^at-anibä, all of you dance around me!

-tanä, burn, do to or with fire.

woti-tanä-t¹, he makes a fire

hä-tanä-hei, put the fire out!

hä-tanä-^o-ä^at, he extinguishes it

hä-tanä-kana-^oei, drench the fire

wot'-tanä-hokani, they burn it

-teä-na, cook; probably from the same radical as the last.

hi-teäna-ät¹, gridiron

teäbitäna-teäna, fried bread

ni-te-teäna-^oäyei-na^a, I maintain the fire constantly

-i-*θetca*ⁿ, think.

kaka'-u*θetca*ⁿ-naⁿ, thoughts
 waxⁿ-*θetca*ⁿ, feel sad (waⁿsaⁿ, waⁿxeit^t, bad, ugly)
 häⁿ-s-i*θetca*ⁿ-hoku, she thought
 bi'aⁿh-ou*θetca*ⁿ, I truly thought
 häⁿnäⁿ-kaxtaⁿw-ü*θetca*ⁿ-t^t, then she thought something was wrong

-*θibi*, relating to clothing. This and the preceding three elements seem verbal and could with equal propriety be listed among the suffixes or stems of the next section.

näⁿ-*θibi*, undress
 tei-*θibi*-t^t, he dressed

-aⁿwu, water.

haxeci-n-aⁿwunet^t, muddy water
 tcänätäⁿ-n-aⁿwunet^t, blue or deep water
 θäⁿθi-aⁿwu, high or rough waves
 kaha'-aⁿwu, creek
 kakuiy-aⁿwu, sticky liquid, molasses

-(i)yei, tent: nīnaⁿ, nīnan, tent.

näyei, häyei, hiyei, my, your, her tent
 yeiyi, set up a tent
 sis-äyei, take down a tent
 n-eihaⁿwū-uyeⁱ, I have no tent

-akac, -akay, tent, house.

hābāt-akay^t, large tent
 hätcax-akay^t, small tent
 waⁿθei-n-akay, waⁿθei-n-akac, an old brown tent
 waotäⁿna-h-akay-eit^t, "Black Lodge," his tent is black
 bātäbi-h-akac, old woman's tent
 hī-beitciθei-n-akay-anit^t, who has the metal tent
 hina-n-akay-aⁿ, "main" pole, by which tent is raised
 teit-akahay-inäⁿt^t, enter-tent-song, sung when water is brought into the
 peyote tent
 heθaw-akay-a-ni, in the dog tent

-äθä', fire.

bänäs-äθä', a large fire
 hī-bäxutcän-äθä', when the fire became low
 kox-k-aθä-yaⁿ-naⁿ, kindlings

-anihi', pet, domestic animal; perhaps contains the diminutive suffix quoted below.

teiy-anēhi, furry, shaggy dog
 ta'-anāhi-hi', short-legged dog
 n-eihaⁿwū-t-anihi', I have no horses

-h-āⁿx^u, plural -h-āⁿxābi, horse, domestic animal.

n-ābīt-āⁿxabei-t', steals horses or cattle

noti-n-āⁿxābi, looks for horses

hiwaxu-hāⁿxābi, horses (hiwaxⁿ, elk)

-āⁿei, head, hair, neck. The independent word for "hair" is beiθe'ā, for "his head" hakuhāⁿ.

ot-āⁿei-hi, comb hair

hāⁿ-tit-āⁿei-niθi, beheaded ones

teāⁿ'āⁿei-n-axa'anaⁿxⁿ, round-head-ax

teāstc-āⁿei-niθi, scratched head

bābāⁿ'aⁿei-n', you are curly haired

naⁿ-taⁿ-h-icib-āⁿei-nei-t', and when he laid his head down

kaⁿ-k-āⁿei-θi, Blackfeet (with erect hair)

kax-āⁿei-sibāt', fractured his skull

kaⁿ-xu-hāⁿ'ix-tāb-āⁿei-kū-θ-ānaⁿ, then again they cut off his head

behic'-tāb-āⁿei-θēhi, all cut off heads

tāb-āⁿei-bās-i, cut-head-wood, stumps

tāb-āⁿei-naⁿ, cut-head, hornless saddle

teih-tās-āⁿei-ei, lay your head on!

naⁿ-k-aⁿei-n, white-neck, starched collar

tahⁿ-teih'-bā-teit-āⁿei-xaⁿ-θi, when they all put their heads in

-i-θā, nose. The independent word is beic.

tāb-iθā-bic, cut-nose-bush, whose fruit appears noseless like a skull

-ēhi, face.

kou-ēhi, swell-face, mosquito

kahan-ehi, hair burnt off

hāⁿ'ni-tābi-eihī-t', struck him in the face

-θāⁿθ-i, fingers, hand. Independent word, bāteet.

hāhis-θāⁿθ-ōhu, wash hands

-aⁿt, leg. Independent word, wa'aⁿθi.

hawah-āⁿt-āt', many legs, centipede

-ixtaⁿ, nail, claw, foot.

was-ixtaⁿ, bear claws, bear foot (woxⁿ, bear)

hās-ixtāⁿ-cisaⁿ, "Sore-foot-child"

-ineihi, tail. Independent word, bātihi'i.

tāⁿ-taⁿ-ka-n-ineihi, raccoon (twisted, ringed tail?)

taxaⁿ-n-ineihi, opossum (smooth tail?)

waⁿ-θeiniθ-ineihi, bat, also Satan (brown, or old, ugly tail?)

-hi'i, -hä', -hähi, diminutive.

hanaxa'aha, young man, hanaxa'ä-hi'i, boy

bätäbi(ä), old woman, bätäbi-hähi

teia^a, child, teia^a-n-ähä'

cicēci, duck, cicēce-hä'

ta'anähi-hi', short-legged dog

VERBS

WORD-FORMING PREFIXES

Among the elements prefixed to verbs, it is clear that those which are essentially word-forming come nearest the stem, while those whose purpose is more strictly relational or grammatical on the whole precede them. As might be expected, no hard and fast line can, however, be drawn between the two classes.

Word-forming prefixes, in turn, are often difficult to separate from independent words. Thus, *täs-i-* and *tcän-i-* mean "on" and "under" in verbs; but provided with the locative suffix *-i-hi'* they are adverbs which stand alone. Just so *xou-wu-hu'*, "straight," and *xanou*, "immediately," are employed, in the forms *xou-* and *xanou-*, as prefixes to verbs. Verbs themselves, like *tcäsis*, "to begin," and *θa^aku-h*, "to follow," are used as prefixes to other verbs.

Apparently related to this last group are such elements as *tä'*, *tou-*, "to stop," and *ta*, *tou*, "to strike, tie, or be or come in contact with"; *kax-*, "through," and *kax*, "to impact violently"; *tcäθ-i-*, "away, outdoors," and *tcäθ-i*, "to depart or elope"; *tcäb-i-*, "past, alongside," and *tcäb-i*, "to travel."

It is true that even when these elements are themselves verbs they are not used merely with the personal suffixes, but that second elements such as *-hi*, *-ni*, *-ku*, *-xa*, *-h* are added to them. Now these added elements, which are frequent on indubitable verb stems, have all been listed as suffixes. But the possibility is by no means precluded that these "suffixes," whose significance usually is of the vaguest and most general, are themselves the real stem of the verb; in which case the preceding element, which is so much more specific in meaning as usually to carry the principal idea conveyed by the complete word, would after all be a prefix of the adverbial or prepositional type familiar from so many other languages.

For instance, *θi-* or *θei-* occurs as the first etymological element of a considerable number of verbs or nouns in all of which the idea of "in" or "on" or "projecting upward" is contained. Thus, *θi-aya^a*,

"a post"; *θei-ka-h* and *θei-wa-n*, "to carry on the back." On the other hand, the frequent element *-ku* is always at the end of words, and often adds little if anything to the meaning of the stem to which it is attached, as in *äbīta-ku*, "to steal," of which the stem appears without the *-ku*, but with the same denotation, in *äbītä*, "to steal," *n-äbīt-ihī*, "thief," *h-äbīt-āⁿxabei-ti*, "he steals horses." When, however, the prepositional "prefix" *θei-* and the vague "suffix" *-ku* are put together they form *θei-ku*, "to put in." In the same manner the combination of the variant *θi-* with the suffix *-ok^u*, apparently an intransitive equivalent of transitive *-ku*, results in *θi-ok^u*, "to sit." Which part of *θei-ku* and *θi-ok^u* is what in other languages would be called the stem? If the first element is a verb stem, then *θei-wa-n*, and such parallel forms as *teīθi-n-aⁿha-b*, "to enter in order to see," are clearly compound or double verbs. If the second element is a verb stem, then *äbītä-ku* must be a compound of two verbs.

That Arapaho, like Shoshonean and some other American languages, possesses true compound verbs—verbs functioning as such and composed of two verbs—is thus probable. But either *θei-* or *-ku*, or both, and with them a large number of other elements, are lost as affixes. And yet the process involved in these cases is not one of mere simple word-compounding, for apparently *θei-* never occurs without a following element and *-ku* never without a preceding one. In short, it would seem that the Arapaho verb is frequently, perhaps normally, compounded of elements which themselves either are, or can become, verbal in force.

It is therefore possible that the old terms "polysynthesis" and "holophrasis," which in recent years have been in justifiable disrepute on account of their vagueness and their implication of processes totally foreign to other languages, may, when the Algonkin, and for that matter the Iroquoian and Caddoan languages, are more precisely understood, be rehabilitated with a new and exact meaning. And still extreme caution seems called for in drawing any such inference. "Incorporation" is another linguistic concept which has been re-established of late years; and yet the justification was brought about only by an abandonment of the very traits which "incorporation" was originally and long believed to denote. Bandied about without standing for anything definite, the term "incorporation" was abused until the very existence of the process was challenged and denied. And when the reality of the process was finally demonstrated the proof resolved itself into the recognition of pronominal incorporation

as a familiar and purely grammatical method represented in some degree in most languages, and of nominal incorporation as a form of the equally familiar process of etymological word-compounding, with only the one distinctive feature that in "incorporating" languages noun and verb can be combined to form verbs, whereas in other idioms they combine only into nouns. In short, the concept of incorporation involves only a new application of a widespread and well known linguistic process, not a new and unique process itself. Or it might be said that incorporating idioms differ from non-incorporating ones in degree, not in kind.

In an analogous manner it seems possible that we may ultimately be justified in speaking of Algonkin as truly "holophrastic" or "polysynthetic." But if so, these terms will essentially be only a convenient designation for the linguistic process which allows two verbs to consolidate into a single one.

In fine, the Algonkin verb, so far as Arapaho is representative of it, cannot in any off-hand manner be broken up into the usual elements of "prefix," "stem," and "suffix"; and any attempt to apply such a procedure leads quickly to contradictions and inconsistencies that reveal the arbitrariness of the method.

The late Dr. William Jones reached exactly the same conclusion as regards the Fox dialect. He does not separate "prefixes" and "suffixes" from "stems" in the verb, but distinguishes "initial stems," "secondary stems of the first order," and "secondary stems of the second order," making these elements differ from each other not so much in their kind of meaning or in their ability or inability to appear as separate words, as in their mere order or position in the word-compound. This classification is a valuable and important departure from the all too frequent method of forcing new languages to fit old schemes or the categories established in other tongues. That the principles of Algonkin verb formation are in some respects conspicuously different from those of Indo-European Dr. Jones has made very clear; and a realization of this fact is the first requisite to a true understanding of Algonkin structure.

At the same time, while Dr. Jones has cleared away the brush and brought us face to face with the trees, he has not led us out of the forest. This task he would no doubt have achieved, save for his untimely death; but it remains undone. The realization that the Algonkin foot does not fit into the grammatical shoe built around the Indo-European last is, however important, only a first step. The

next and necessary one must be the construction of a new type of shoe which upon suitable modification for individual cases will fit both feet. Or, to drop the metaphor, while an application to Algonkin of linguistic categories derived from Indo-European leads to misunderstanding, the construction and use of an entirely novel set of categories for Algonkin is meaningless. The types of structure represented by the two groups of languages obviously have something in common, however different these common principles may in reality be from what superficial acquaintance or a one-sided approach would lead one to suppose. In fact, the determination of what they have in common, involving as it does the recognition of that in which they are different, is an essential purpose of the study of both; for whether our interest lies in the problem of the nature or that of the origin of human speech, a classification is involved. In its widest ultimate aspect philology is concerned not with Algonkin as such nor with Indo-European as such but with all languages. Only when speech in general, its scope and its methods, are better understood will both Algonkin and Indo-European, or for that matter any particular group of languages, be more truly understandable. The real aim of the study of any American tongue, as well as the aim of any deeper research in Indo-European philology, must therefore be the more precise and fundamental determination of their relations to all other languages; and this necessitates concepts and terms which are applicable in common. It is impossible to characterize the wolf in terms of his skeleton, the elephant of his embryology, the whale of his habits, and then to construct a classification which will help to reveal the inherent nature, the development, or the origin of the animal kingdom. True tribute to the memory of Dr. Jones's work will be paid, not by a standing still where his labors were unfortunately broken off when chiefly their negative or destructive side had been completed, but by carrying his efforts and formulations on through a constructive phase to a point, denied to him by time, at which Algonkin will once more appear in a definite relation to human speech as a whole.

What this relation will be the writer does not have knowledge or understanding enough of any Algonkin language to say. But until the science of language is revolutionized by entirely new methods of thinking about it there seem to be only three possible descriptions of the Algonkin verb that have a usable meaning.

The first interpretation is that of the verb as the result of a process of composition similar to that of noun composition, but extended in

Algonkin also to verbs. This essentially is the conclusion of Dr. Jones; and it is also the inference of the present writer. But it cannot be too clearly recognized that even if this explanation is in substance the correct one we do not yet really know anything as to the rules and conditions and limitations of this verb-compounding.

The second interpretation of the Algonkin verb is that of a stem followed by a greater or less number of suffixes. In this case the "initial stem" of Dr. Jones would be the only true stem, his "secondary stems" the suffixes. In support of this explanation is the fact that the initial elements of verbs come nearest to having the power of forming words by themselves, in both Arapaho and Fox: and the statement of Dr. Jones⁸ that on the whole initial stems more definitely perform the function of verbs. If this view is correct, the type of Arapaho verb-building would be somewhat analogous to that of Eskimo.

The third possible interpretation is also that of a verb stem with affixes, the word-forming ones, however, being chiefly or wholly prefixes, the stem coming last, except for grammatical endings.

In favor of this last view is the fact that practically all the "secondary stems of the second order" given by Dr. Jones are naturally translated by words which in most other languages are verbs, whereas substantially all his cited "initial stems" and "secondary stems of the first order" can actually be rendered, without much distortion, as adverbs, nouns, auxiliary verbs, or modal particles. It is not certain how far Dr. Jones's examples of each class are fully representative of that class, his lists obviously aiming at well translated instances rather than at fullness; but it is clear that his own presentation of evidence leaves the interpretation of the "secondary stems of the second order" as being true verb stems defined by prefixes, in a position where it cannot be summarily dismissed.

Thus the "*secondary stems of the second order*" listed by Dr. Jones⁹ are most simply rendered as follows: egä, dance; teim (Arapaho teawou), swim; isä, fly; isähö, jump; ötä, crawl; usä (Arapaho is-ä, us-ä), walk; gäpā (Arapaho öi-ä¹⁰ku), stand; pahö (Arapaho i-ka¹⁰hu), run; ö, carry on back; hogö, swim, convey by water; pugö, float. *Initial stems* cited¹⁰ are: ki, about; pem(i), past, alongside, incipiently; pyä, hither; pi(t), into; cösk, straightly, smoothly; säg(i), projecting, holding; mīk, assiduously; kōg, wetly, with water; kās(i), by wiping; pas(i), suddenly, hotly; wī, with; tä(wi), painfully; nag(i), stop; pōn(i), cease;

⁸ Some Principles of Algonquian Word-formation, American Anthropologist, n. s., vi, 401, 1904.

⁹ *Op. cit.*, 394.

¹⁰ P. 388.

wäp(i), begin; kask(i), can, be able; kic(i), completely; nôtä (pp. 394, 404), be unable; pag (pp. 393, 403, Arapaho *kax-*), by striking, with impact. *Secondary stems of the first order*¹¹ are ä'kw, wood, resisting; nag, hole; tag, color; nägu, appearance; itä, feel; äne, think; kam, expanse; and the following body part stems, used objectively or adverbially (in translation) to the verbal element in the verb complex: cä, ear; kum, nose; tun, mouth; winä, horn; 'kwä, head, hair, nape; tcä, belly.

Compare also wäp-usä-w*, "he begins to walk" (p. 386) = "incipiently he walks" (or "he begins in his walk"'); wäpi-pyä-tei-tetep-usä-w*, he begins to walk approaching in a circle = "incipiently hither circularly he walks" (or "he begins his hither circular walk"'); pägi-kumä-cin-w*, "he bumped his nose" (p. 393) = "with impact his nose he struck" (or "he struck his nose against it"'); täwi-cin-w*, "he fell and hurt himself" (p. 386) = "painfully he struck" (or "he hurt himself against it, he hurt himself by impact"'); täwe-'kwä-hö-w*, "he has a headache" (p. 394) = "painfully as to his head he is" (or "he hurts as to his head"'); pag-ä'kwi-tunä-cin-w*, "he bumps his mouth" (p. 403) = "with impact against something resisting his mouth he struck" (or "he struck against something resisting with his mouth so as to be stopped"'). Translating these Algonkin words as compound verbs gives a third set of renditions, which are perhaps the truest, but, owing to Indo-European idiom, almost unintelligible in English: "he begin-walks," "he begin-hither-around-walks," "he hit-nose-strikes," "he hurt-strikes," "he hurts-head," "he hit-hard-mouth-strikes."

The posthumous and fuller grammatical sketch of Fox by Dr. Jones in the *Handbook of American Indian Languages*¹² gives some other forms, to which the reviser, Dr. Michelson, has added a hundred odd further initial stems taken from the Fox Texts of Dr. Jones. But this increased material does not alter the conclusion which can be drawn from Dr. Jones's earlier work as here summarized. The secondary stems of the first order are clearly not the principal stems of the verb-complexes. The "initial stems" may be verbs. If they are, the "secondary stems of the second order" are either suffixes or other verbs compounded with the "initial stems." That they are suffixes does not seem likely from the character of the examples given. If their number is substantially limited to those quoted, their suffix nature might be conceived of; but if their number is indefinitely large they cannot well be anything but true verb stems. The evidence of quantity, then, becomes as decisive on this point as that of quality; and this evidence must be awaited with interest from Dr. Michelson or some other authority competent to carry on Dr. Jones's analysis. Meanwhile the strong probability is that if the "initial stems" are truly verbal in nature the normal Fox verb is a compound binary

¹¹ P. 391.

¹² Bureau of American Ethnology, Bull. 40, 735-873, 1911.

verb. If, on the other hand, the "initial stems" are essentially adverbial, prepositional, or modal in quality, they deserve only to be ranked as prefixes, even if some of them may have reached this condition by the way of once having been subsidiary verbs; and in that case Fox, and with it no doubt Algonkin in general, possesses verbs that are built up around a kernel of a normal verbal stem or root, as in most languages, and these stems or roots are the "secondary stems of the second order."

The problem has a somewhat different aspect in Fox and Arapaho because Dr. Jones and Dr. Michelson have started their analysis of the verb from the concept of three kinds of stems, while the present treatment proceeds, though with full realization of the difficulties involved, from the more conservative premises of prefix, stem, and suffix. But Arapaho is so obviously Algonkin in its whole plan of expression and word-building that the fundamental problem is undoubtedly identical in the two languages.¹³

One suggestion to future laborers in this field may not be amiss. It is the dropping of the term "secondary stems," at least as applied to those "of the second order." If these "secondary stems" are suffixes, nothing will be gained by denominating them stems. If they are stems, that is, true verbal elements, they are either the real stem of the entire verb or at least one of a pair of stems, and in the latter case probably the ruling and "determined" one of the pair. In that event the designation "secondary" will be misleading. Tentatively the name "final stems," which parallels that of "initial stems" without any implication of primacy or dominance, is proposed.

In short, the undetermined and, in the writer's mind, fundamental problem of Arapaho, Fox, and Algonkin in general is whether these languages say "he enter-looks," "he enters lookingly," or "enteringly he looks." The first solution seems indicated; if it proves fallacious, the third appears more likely to be correct than the second. In either the probable first or third event, however, it can be said that the last element comes nearest to being the principal verb stem of the complex word.

The thorough difficulty of judging this case in the present state of knowledge may be illustrated by the English words "contend,"

¹³ It is a matter of great satisfaction to the author that since the preceding passages were written, two statements from the pen of Dr. Michelson (*Am. Anthropol.*, n. s., xv, 475, 693, 1913) have been published which evince a very similar realization of the more important aspects of this intricate problem. Dr. Michelson's knowledge of Algonkin is much the greater; that he should have come to nearly the same conclusions is therefore gratifyingly corroborative.

"contest," "conflict," "combat," "compete." If English were as little understood in its basic structure and history as Algonkin, it would be a fair inference that "con-" in these words denoted the verbal idea of "struggle, oppose, fight," and that the second syllables were adverbially modifying suffixes of this stem. That "-flict" and "-pete" do not occur independently, and "tend" and "test" when separate words have an entirely different meaning from their compound forms, would only incline to confirm the conjecture. Obviously it would require a wealth of accurately understood and exactly analyzable lexical material before the true nature of the elements of these words and their strict parallelism to the constituents of "offset," "forbid," or "withdraw" became clear. This understanding of Algonkin we do not yet possess; and therefore, tempting though it may seem to explain its verb as compounded of two verbal elements, or of a nominal or adverbial with a verbal element, it is wiser to proceed with caution. Accordingly, for purposes of presentation, the old concepts of stem, prefix, and suffix have been retained, subject to the qualifications discussed, as the categories underlying the following classification of Arapaho verb elements.

A. PREFIXES USED ALSO AS INDEPENDENT, SEPARATE WORDS, OR MADE INTO VERBS
BY THE ADDITION OF AN UNSPECIFIC, MERELY VERBIFYING SUFFIX

tcäsis-, begin.

tcäsis-ina^{ei}, go off to hunt
tcäsis-ta-ka^{hu}, begin to flee
teeθiθ-ouhu, begin to climb

näye-, try.

tah^a-bä-näyei-θⁱ, when all tried
näyi-kaxk-atī-wa^{ou}, tried to roll through
näye-tawa-h-unⁱ, try to chop it down!

θa^aku^u-, following, behind.

θa^aku^u-h, θana^aku^u-h, follow
θa^aku^u-na^a-usä, come back
θa^a(k)-ka^aouta^a, follow making dust

tä', tanä-', tou-, tanou-, stop, cease. The element occurs also as an independent verb or characteristic first part of the verb in a

number of words which denote contact, impact, or the meeting of an obstacle by a motion.

tā'-usä, come and stop
 tanä'-usä, stop when going
 kou-tā'-ä-bä, lie abed long (ä, bed)
 ha'tni-taux-teä-i-niθi, stopping place
 hä-tou-n-a-wü-n-eθi, I hold it for you
 tanou-ku-huθi, three first poles erected to hold up the remainder of the tent
 nī-tou-na, I strike
 tou-nināt', coup, counting strokes
 tou-ku-hu-ta-ni-na, they are tied up for
 tou-ku-hu-i-n-ä-wü, tying-up house, jail
 tou-tei-hīt', belt
 ta'a-xa-n-eθen', I kick you
 ta'-ya-b-eθen', I bite you
 taa-w-a'ti, taa-b-ä, struck him
 ta-wa-hei-na, I chop wood
 ha't-ta-wa-h-ät', he will cut down the tree
 nīta-wü-tou, "Striking First," a name

kax- seems to imply violent impact or penetration. Compare Fox pag-.

kax-ka'āna, it went through
 kax-k-oti-wä, rolled through
 kah-ä'ei-si-bä-t', fractured his skull
 kax-aei-t', striking
 kaxa'-axuxa, wedge
 kaxa'-ät', there was a fissure
 kax-ouhu, chipped off, shot off
 kaxa'-ä-häk, shoots him
 kox-k'θahä-na, "breastpins" of tent
 kox-k'θä-ya-na, kindlings ("through flame starts"?)
 kox-ta-wu-h, touch, do to, copulate

tcäb-i-, passing, past, on, continuing.

tcäb-i-hi-t', travels
 tcäb-i-sä, pass on, pass by, be on way, walk, go continually
 tcäb-i-ka'hu, pass, come by
 tcäb-i-xa't', walks
 tcäb-i-xa-h-eθen', I carry you

teit-, teiθ-i-, in, into, entering.

teit-ei, enter, go indoors
 teiθi-n-a'ha-b, go in to see
 teiθi-x-teä-hi, run inside, go into
 teit-ä-n-a, takes him in
 teit-awä't', dancing in
 teit-a-bixüt', undershirt, inner garment
 teit-a-wü, indoors

B. PREFIXES USED ALSO AS INDEPENDENT, SEPARATE ADVERBS, OR SIMILAR PARTS
OF SPEECH

h-ixtc-i-, up.

hixte-äbä, up, above
he-tei'-ixtei-ku-s-i-bä, throw me up
hixte-is, go up

häⁿöäb-i-, to, reaching to, before, ahead.

häⁿöäb', toward
häⁿöäb-i-nou-isä, go there
häⁿöäb-i-nä-sä, arrive
t-äⁿöäb-i-nä-usä, when arrives
häⁿöä'-ei-säⁿ-t', before him
häⁿöä'-ei-täⁿ, in front
häöaw-unenaⁿ, head men
häöab-äsei, chief woman
häöawä-n-axu, "chief-medicine," a root

tcän-i-, far, down, headlong.

tcän-ih'i', under
tcän-isei, give birth to, "drop"
tcän-isi-b-eit', threw him off
tcän-isä, fall off, go down, go far
tcän-i-xoukaⁿ, flew down
tcen-i-ta-kaⁿhu, flee far
tahⁿ-tcäni-bihiⁿ'iyäⁿ-ni, when it was far into the night
tcen-a-näbäⁿ-ä-t', plunged headlong

täs-, täx-, on, at the top.

täs-ih'i', on top of, on, at the top
häⁿi-täs-ä-n-äⁿ, then he put it on
täⁿs-isäⁿ-öi, mounted (horse)
täx-ohäöi, put hands on
hih'-täⁿx-oku-ta-n', which he rode
täsi nīnanä, top of a tent
täsihäⁿ tea'otäⁿyaⁿ, on top of the hill
täsihiⁿ' äⁿbä, on the bed

äⁿxu-, across.

h-äⁿx-anäⁿ, across the stream
äⁿxu-n-oti-waⁿ, rolled across
h-äⁿxu-x-äⁿ-t', the crossing
h-äⁿxu-iy-ei-n, sew
teihⁿ-äⁿxu-s, come across!

θi-, θei-, on, upon. Perhaps more properly *θi'-, θei'-*.

θi-ok^a, sit, live
θi-a^ak^a, stand
θi-ānā, put, place
θi-a-ya^a, post, monument
θei-ku-θ, put in
θei-ka-h-ā^a, carries on the back
θei-wa-n-ōhu, carrying on the back

häs-, hä^as-i-, hard, very, fast, violently.

hänā^a, hänou, hard
hä'nä'ei, hä'nä'ou, fast, very fast
häsei-yei-hiθe-t', very good
hä^asi-i-ka^ahu, run hard, swiftly
häsa'ā-t', änesa'ā^a, swift
häsa'a-n-oti', "fast-wheel," train
häseisen', wind
hasa^a-netc', rain
häsa^aha-b-eti-t', looking at oneself
häsa^aha-θana^a, sights
(h)äsi-bä^a, a sore
hä^as-ixtā^a-cisa^a, "Sore-foot-child," a name
äsi-na-ta, hungers for it
äsi-na-n-āt', anger
äsi-ni-h, to make angry
t-äs-owa-bi-x-t', when he became sick

nou-, na^aä-, naha-, out, around, down.

na^au-hu', down
na^aä-hi, go out, come out
na^aä-sä, walk about
na^aä-ka^ahu, run around
nou-tä-n-in, bring her out!
nou-sa-n, drive out
nou-t-ahawā^at', dancing out, a ceremony
nou-θita^aā^a, went out in file
nohu-ku-θ, lift up, carry
na^aä-n-ahawā^at-ani-bä, dance around me!

a^awu-, ina^awu-, hani-, down, falling.

ha^awu', hanāwu', down
n-a^awu-hu', south
n-a^awu-bä'ei, southern berries
teih'-a^awu-inā^a, let it come down!
tah^a-na^asou-n-a^awu'-nihi-sä-t', while he traveled down-stream
h-a^awui-nihihi, down-stream
t-a^awu-n-iho-a^a, floating down-stream
ina^awū-sä^a-häk^a, dived, went under water
h-ina^awū-a^a, it sank
hani-nā^a, fall
hani-ku-θa^a, throw down

kou-, kanou-, long, far.

kana^a-a^aya^a, "oblong," extended
 ka^aäⁿ-ihi', slowly
 kanou-ci-bi-öi-hi-na^a, I eat a long time
 kou-ö-inät-it', long life
 kou-ta'-a^a-bä-, lie abed long
 kou-öihi', some time later
 kanou-ta^atä^a, long

xou-, xanou-, straight.

xanou, xaxanou, straightway, immediately
 xouwu, xouw-uhu', straight, straight in
 xoub-ä^a, straight
 xanoub-i-x-t', straight
 tani-xoub-ei, a very straight one
 xouwu-xati, take this straight
 xana^a-ku-bä, "straight (across) red," name of a design
 xouw-usä, go straight

tceib-i, aside, crookedly.

tceib', crooked
 tceib-ä^a, crooked (cf. xoubä^a, straight)
 tceib-i-s, step aside!
 tceib-i-sä-na^a, I get out of the way
 tceib-i-teena'ä^a, jumped aside

tcäö-i-, away, off.

tcäöi', outdoors
 tcäö-i-ä^at', he elopes
 tceö-i-ka^ahu, escape, start off, leave
 tceö-eia^at', goes, departs
 tceö-akouuhu, go farther up
 tcäö-i-öä^aci-b-eit', blew him away

watä^a-, into the camp circle.

watä^a-ni', into a camp
 watä^a-s^a, go into the camp circle
 watä^a-ka^ahu, go (run!) to camp

ci-, cix-, seciö-, senix-, into water, in the water.

sec'ö-a^awu, at the bank, near the river
 hit' teih-cih-kü-ö-i, throw me into the water here!
 hänä^a-cih-kü-ö-a^at', then he threw him into the water
 senix-teähit', jumps in the water
 nä^a-tei-ci-eisä^a, come right into the water!
 hänä^a-nisa^a-ci-eisä^a-öi, then both entered the water
 wa^a-ci-e-b, take into the water

nänäb-, north.

nänäbä', nänäbi', north
nänäb-isä-t', goes north

nīs-bis-, east; nīs-nä-, west.

nīs-bis-isä, go east
nīs-nä-isä, go west

naxk^u-n-, with, also.

naxkū-hu', with, together, including, also
häⁿ-bä-naxku-hä, you might be included
nanaxku-ni-hi-tawa, I include it
naxkū-n-isä, travel with
hät-naxk-a-tceθ-ei-at', he will go away with him

nās-, hānās-, thus; compare the demonstratives nā-hä', hi-nä.

nās-ināt-it', thus lived again
nās-it-āt', did accordingly
hānās-iθetcaⁿ-tana-hokⁿ, thought of him thus

tābä-, just then, begin to.

tābä, then! lo! just then! being about to, when
tābä-bānā, begin to drink
tābä-tawa-h-āt', begins to chop down

kaⁿx^u-, kaⁿxäⁿ-, again, once more.

kaⁿxⁿ, kaⁿxū, kaⁿxäⁱ, again, another time, then at last
kaⁿxäⁱ-kaθe-n-ä, again lost him
kaⁿxäⁱ-naxawⁿ, again was near
kaⁿ-xäⁱ-aneθeia-n-ä, once more he struck one down by kicking

hana'utⁱ-, hana'a-, all, completely, enough, sufficiently, until.

hanautⁱ biteixaⁿ tcān-isei, all leaves are falling
häⁿix-hana'uta-yaⁿ, now was complete
hana'utⁱ-häⁿix-yāθani-sibihei, until he had killed (all) five
hana'utⁱ-hätⁱ-icite-n-aⁿ, indeed I will catch it
hana'utⁱ-häh'-naha-'ou, until I killed them all

bä-, behi-, behic-, bābānei-, all.

bāhihi', all, everyone, anybody, completely
bā-hi-nihāni-x-t', the owner of all
bā-tani-ci-niθi, all have a hole cut
bā-hi-nihaⁿ-you, all are yellow
bā-hi-yeiyaⁿ-unäⁿ-θi, all have four arrows
ba-h-āxaⁿ-āt', shot all

häⁿθei-, all, all who.

häⁿθei, all. See Text I, note 5
häⁿθei-hiθeti-ni, all that were good
häⁿθei-wana-ūneiti-niθi, all who still lived

C. PREFIXES NOT YET FOUND AS INDEPENDENT PARTS OF SPEECH

1. *Apparently Verbal*—

wan-, go to, go for, go after.

hänä^a-wan-bi-n-ä^at', then he went to give it to him
 wan-i-bi, go to eat
 ni-wa^a-ka^ahuwa, I went and cut
 wan-ote-n, go and gather
 wan-i-tcena^a, go in order to jump
 wan-isei-nä^a-hiöi, burrs, "they who go after women"

näbi-, nawu-, make a motion to, move forward.

näbi-x-tcä^a-hiöi, made a motion forward
 tcena-näbä^a-ä^at', plunged headlong

nīs-, to, tied to.

nīs-axäya^a, wire fence
 nīs-i-äöeiyo, trousers, "tied leggings"
 nä-nīs-a^aku-hu-niöi, the tied ones

na', to, arriving.

na'-usä, na^a-us, arrive, come to

cīt-, continue.

cīt-isä, journey, go on, keep going

haöa^a, truly, surely, indeed, necessarily.

haöa^a-a^a-biti, indeed I shall be revenged
 haöa^a-a^a-hä^a-t-iöite-n-a^a, surely I shall catch him
 haöa^a-a^a-hä^a-ni'iteei, it must be eatable

2. *Apparently Adverbial, Referring to Manner*—

hinix-, hanux-, very.

hinix-iöeti, very good
 hanux-uöeti-n, very good
 hīn-tcä^a-b-it', water-monster ("very-shooter"?)
 hinix-hänixt', very tall

ni', good, well.

ni'-bi-ni, good to eat
 ni'-ina^aei, good hunting
 ni'-bäha^a, smell good
 ni'-teei, eatable
 ni'-tcä^a-t', is sweet
 ni'-owa-be-hi-na^a, I feel well
 ni'-eh-t', is fine-looking

tani-, indeed, very, skillfully.

tani-xoub-ei, very straight one
 nih'-tani-tcä-inäti-hok", skillfully he lived again

inä-, fast, more swiftly.

nih'-inä-sä-t', quickened his pace
 h-inä-nawa, without delay

nani-, nani-, constantly.

nani-bäni, drink frequently
 neni-nä'ku-t', blind
 ni-neni-s-ei-ka'hu-t', mole ("who constantly runs"')

in-i-, aimlessly, randomly, about.

in-i-sä, wander, go aimlessly, "bum around"
 in-i-kuhi, was chased about
 in-i-ka'hu, went around
 in-i-tä-ka'hu-h-eit', dragged him along

3. Apparently Adverbial, Referring to Space—

tcä-, tei-, back, again, returning.

tcä'-isä, tei'-isä, tei-sä, go back
 tcä-yi-ka'hu, run back
 tca'-w-oti-wa", rolled back
 tcä-näih-ä-t', "again killing," a place

iy-i-, near.

h-iy-i-sä, come near, approach
 i-ha"-n, iyi-ha"-n, go after, pursue

a'y-, in front.

a'y-ei-ka'hu, go ahead

tei-bixä", out of the woods, into the open.

tei-bixä"-u-ka", came running out of the timber

bis', up, out.

hä'ix-bis'-tcena'ä", sprang up

WORD-FORMING SUFFIXES

The etymological "suffixes" of Arapaho verbs are not only less numerous than the "prefixes" but far less concrete and specific, to the degree of being almost grammatical. They comprise transitives, intransitives, causatives and similar derivatives of wide applicability but general meaning.

-ni, to be, to have; verb-forming.

hiha^aw-aha'anākā^a-ni-n, there are no stones
 hit-akā^axu-i-ni-t', he who has tentpoles
 n-eiha^awū-uta-ni-hi, I have no horses
 n-iŋe-ti-ni-n, that which is good
 hinana^a'ei-ni-na^a, I am an Arapaho
 inenitā^a-ni-n', you would be well, living
 bāhāei-āhe-ni-t', becomes an old man
 ni^a'bi-ni, good to eat
 nāteŋi-ni, wet (nete^a, water)
 hi-neteŋi-bi-ni-ŋ', the water-giver, owner of waters
 niha^a-ni-x-t', is yellow (niha^a-ya^a)
 tea^a'otaya-ni-na^a, I am hump backed
 nānā^a-ni-na^a, I, it is I

-ŋi, intransitive.

nā^a'ā-ŋi-x-t, resembled (nā^a'ā-si, thus)
 bi-ŋi-, eat (bi-n, eat something, bi-ŋ', food)
 anā^a-ŋi-, be different in appearance

-hi, intransitive.

h-iŋei-hi-nārk^a, if you are good
 bihi^a'i-hi-n, be a deer
 bāni-ŋi-hi-na^a, I eat
 kanāne-hi-na^a, I am a coward
 nānābā^a-hi-t', what is sacred
 hiŋa^awu-tai-hi-na^a, truly I am cold

-hu, intransitive.

i-ka^a-hu, run
 ta-ka^a-hu, flee
 na-ka^a-hu, come, bring
 ni-sā^aku-hu-ŋi, were tied
 nitou-hu-t', shouts
 tēābixa^a-hu-t', flies
 yana-hu-t', pledger, he who vows
 tea^a'otaya-hu-t', hump backed

-awui-ni, become, begin, be.

t-intcäbīt-awui-ni-t', he became a water-monster
ka'nä-n-awui-ni-θi, they opened it
bäni-awui-n', spring (bäni-tce, summer)

-owa, feel; bodily condition.

ni'-owa-be-hi-na^a, I feel sick
hä-s-owa-, sick

-si, be in the condition of.

isi-si, be lying
bä-tani-si-ni-θi, all have a hole cut
nä'ä-si, nä'ei-si, thus, thus it is
kah-ä'ei-si-bä-t', fractured his head

-bä-n, -wa-n, cause, make, bring about.

t-aseinou-bä-na^a, I get meat
axa^a-bä, made laugh
axa-bä^a, axa-wu, fed them, give me food!
waxu-bä, to have medicine
oti-wa^a, roll (hoti', wheel)

-h, causative. See the starred forms under the "connective"
suffix -h.

-ei, causative.

hakä^ax-ei, make tentpoles
h-ä^axu-iy-ei-n, sew (ä^axü-, across)
tcä-tcäb-ei-θi, making pemmican (tceb')
tic-tcibät-ei-t', after he made a sweat-house

-xa-h, cause to be in condition of.

tcäbi-xa-h, make travel; transport (tcäb-i-, passing)
nä^aa-xa-h, bring in (nou-, nä^aä-, out)
tcä'e-xa-h, take back (tcä-, back)
sä'θi-xa-h, peg out flat (sä'ä-, flat)
xouwu-xa-ti, takes it straight (xou-, straight)
tcä-bi-xa-hu-t', flies (tcä-b, shoot)
ni-tanä-xa-hei-na^a, I dig a hole (tana-t', hole)
bä-xa-h, strike

What at first appears to be the stem preceding this suffix is in most cases an element which itself is normally a prefix. Whether the "prefix" tcäbi- or the "suffix" -xa is the true verbal "stem" remains to be determined, as in so many other cases.

-ku-*θ*, to make a motion leading to the condition or position described in the "stem." This "stem" in turn is often a "prefix" in other words.

θei-ku-*θ*, put in (*teiθi*-, *θei*-, in, on)
nohū-ku-*θ*, lift, carry (*nou*-, out)
tcei-ku-*θ*, release, let go (*teä*-, *tei*-, back; *teäθi*-, away)
hä'ix-ix*tei*-ku-*θ*-ä", threw him up (*hixte*-, *hixteäbä*, up)
tou-ku-*θ*, bind
ka"ka"*nī*-ku-*θ*-ä", he uncovered him
iθi-ku-*θ*, seize
äbita-ku-*θ*, steal
bä-kü-ta", "red stand," a head-dress

Probably the same in origin as -ku-*θ* is an intransitive ending -ok".

θi-a"ka", stand (*θi*-, on, projecting)
θi-ok", sit, be sitting
teän-ok", sit down, seat oneself (*teän*-i-, down)
tä"x-ok", ride (*täx*-, *täs*-, on)

-ä, to make, bring, cause to be.

bäs-ä-, carry, bring wood (*bäs*'¹)
tcit-ä-n-a", takes him in

-ta-n, -ta-na, for, to, of, about.

cī-ta-n, capture for
ic-ta-n, *ici*-ta-n, make
kousa'ä"-ta-n, attack
θa"wa-ta-n, believe
cīyi-ta-*θ*, make disappear for
ä"*θi*-ta-n-a"t', tells it to him
axä"-tana-w-a"t', makes fun of him
äheisi-ta-ni, gave to be washed (*äheisi*-ou, wash one's self)
hänäs-iθetca"-tana-hok", thought of him thus
h-iθi-ku-ta-n-a"θi, when they seized them
isi-bi-ta-ni-ni, bedtime, time for lying
θähä'i-ta-n, be agreeable (to)
kaha'ü-sa"-ta-b-ä", took half of her
tou-ku-ta-n-ä", tied to him
tou-ku-hu-ta-ni-na", they are tied up for
nä-nä(h)-ä-ta-n-eina", he killed them for us

-wu-n, to, for, with.

waθanaha-wu-n, write to
ata-wu-n, eat up for
neiäna"-wu-n-ä", holds it tight for him
ni-tana-wu-hei-na", I dig a hole
kox-ta-wu-h, do to, meddle with

-tⁱ (-ī-tⁱ, -āⁿ-tⁱ), forms abstract nouns. This ending seems to be that of the third person subjective.

bixa^a-θ-et-it', love
 bī-θi-h-it', food, eating
 bäsä-ihä^a-t-it' (ceremonial) touching (by old men)
 hinä-t-it', life
 hinen-tän-it', tribe
 tceita^a-h-ät-it', "ear-piercing" ceremony
 tee'-ät-it', "welcoming" ceremony
 häs-owa-be-h-it', sickness
 änet-it', speech, voice
 waxu-c-it', paint, the painting
 ka'ue-h-it', a bleeding
 tou-tei-h-it', belt
 bät-ä^a-t', a dance
 äsina-n-ä^a-t', anger
 h-ä^axū-ä^a-t', a crossing

-ēhi, ōhu, agent, action, instrument, thing for.

h-äbīt-īhi, thief
 äneti-b-ēhi, speaker
 häbäθ-ēhi, a large one
 kata-ōhu, beadwork (kata-, cover, hide)
 teawouw-ūhu, swimmer

-āⁿ, -y-āⁿ, that which.

θi'a-yā^a, post, monument, goal
 hasei-yā^a, an offering
 bä-θa^a-to-ā^a, hemorrhage
 bäθi-yā^a, property, clothing
 bänī-yā^a, night, darkness
 bihi'i-yā^a, at night
 kana^a'a-yā^a, long, oblong
 niha^a-yā^a, yellow (niha^a-ni-x-t', is yellow)
 nihä-yā^a, self (nihä-ni-, to own)

GRAMMATICAL PREFIXES

Grammatical affixes of verbs are prevailingly prefixes, except for most of the pronominal and a few other elements.

k-	interrogative
k-ih'-	
k-a'-	
k-a'hei-	
k-a'hä-	
k-a'hu-	
i-ha'wu-	negative
tei-, teih-	negative
tei-bä', tei-bäh-	negative imperative
tei-	sometimes positive imperative
ni-, nih'-	incompleted action
-isi-	completed action
nih-isi-	
hä-n-isi-	
ha't-	future, probably of purpose or intent
ha't-i-	
ha't-a'n-i-	
t-	when, after, because
tī-, tih'-	action incomplete
ta', tah'-	
tisi-	action complete
tisini-	
ta'hüsi-, ta'hüsi-	
ta'hüsini-	
hä'-ti-	optative, "let me"
hä'-tih'-	
bih'-	"would that!"
öi-	optative, "let me," "let us"
iöi-	
hä'-	meaning not determined
hä-ih-, hä'-ix-	'then'' ¹⁴
hä'-nä'-	'then'' ¹⁴
nī-	relatively subordinating or noun-making: "he who, which, where"
nih-	
hi-	
nihī-	
hini-	
hä'-ta'-	where
hä'-	while; continuing; "—ing"
hä'-teis-	
na'sou-	the same meaning as the last
ti-na'sou-	
hawa-tih'-	although

GRAMMATICAL SUFFIXES

-eti	reflexive
-uti	
-hok'	"it is said," quotative
-äxk'	conditional, subordinating
-häxk'	
-näxk'	

¹⁴ These two frequent prefixes, whose exact force is not clear, are evidently introductory and appear to contrast with each other. See text III, notes 4, 29.

PRONOMINAL ENDINGS

The pronominal endings of intransitive verbs, including numerals, adjectives, and independent pronouns, are:

I	-na ^a
you	-n ⁱ
he	-t ⁱ , or a vowel
we	-na ^a
you	-nä ^a
they	-θi, or a vowel

These endings are usually added directly to intransitive stems.

bänä-na ^a	I drink
n-äneti-na ^a	I speak
θioku-t ⁱ	he sits
θia ^a kū-t ⁱ	he stands

The intransitive imperative is the stem.

The intransitive negative with the prefix *iha^awu-* is formed with prefixed pronominal elements.

I	n-eiha ^a wu—
you	h-eiha ^a wu—
he	h-iha ^a wu—
we	n-eiha ^a wu—bä (or -hi-bä)
you	h-eiha ^a wu—bä (or -hi-bä)
they	h-iha ^a -wu—na ^a (or -hi-na ^a)

In these forms -na^a recalls the commonest plural suffix of nouns, -bä is probably the stem for “all,” and the vowel change in the third person, as well as the initial prefixes, are suggestive of the possessive prefixes. Perhaps the division should be *nei-ha^awu* instead of *n-eiha^awu*.

The transitive conjugation is formed by suffixes. These are:

	<i>Me</i>	<i>You</i>	<i>Him</i>	<i>Us</i>	<i>You</i>	<i>Them</i>	<i>It</i>
<i>I</i>	—	eθen ⁱ	-a ^a '	—	-eθenä ^a	-ou	-awa ^a
<i>You</i>	un ⁱ	—	-a ^a t ⁱ	-eiä ^a	—	-a ^a tei	-aw ^a
<i>He</i>	-eina ^a	-ein ⁱ	-a ^a t ⁱ ¹⁵	-ina ^a	-einä ^a	-a ^a t ⁱ	-a ^a '
<i>We</i>	—	-än ⁱ	-ät ⁱ	—	-änä ^a	ät ⁱ	-awina ^a
<i>You</i>	-eiänä ^a	—	-anä ^a	-eiänä ^a	—	-änä ^a	-awinä ^a
<i>They</i>	-iθi	-einan ⁱ	-a ^a θi ¹⁶	-eina ^a	-einä ^a	-a ^a θi	-ou

The above forms have been found on most stems. Some verbs, including *tcä-b-* and *kä^au-*s, replace the first vowel of the suffix, be it e, ei, ä, or u, by i, except for the inanimate object, the “I-them” form -ou, and perhaps certain other forms of the third person object. Thus, *tcä-b-i-na^a*, *kä^au-s-iθenⁱ*. Some other verbs, including *bäxa-h-* and *säⁱθixa-h-*, substitute u for e, ei, ä as the first vowel of the suffix

¹⁵ Second form: he (B) to him (A): -eitⁱ.

¹⁶ Second form: they (B) to him (A): eiθⁱ.

in the first and second persons object, but contrariwise in the third person object change *a* to *ä*, and *ou* to *ei*. On the other hand, the stem vowels change according to the suffix in some verbs: *nä-nähä'*, kill, occurs before all persons of the object, animate and inanimate, except the "A" form of the third person: *nänähä'-einaⁿ*, *nänähä'-einⁱ*, *nänähä'-eitⁱ*, but *nanaha'-aⁿtⁱ*.

The endings themselves cannot be analyzed in all cases into regularly recurring subjective and objective constituents, although *-nⁱ* for the second person singular object, *-näⁿ* second plural subject and object, *-ei* first plural object, are clear. The impression given by the endings is that the two elements of each occur in a fixed order not so much according as they represent the subject and the object as according to the person denoted. The second person comes last, whether subject or object; between the first and third persons precedence is not so clear.

This is confirmed by the transitive negative conjugation with the prefix *-i-haⁿwu-*. In this the second person is always prefixed; the first is suffixed as against the second, but prefixed as against the third, while the third is prefixed only when there are two elements of this person. Such a form as *hei-haⁿwu-bixaⁿ-θ-eθ* also corroborates the inference that *-eθ* in *bixaⁿ-θ-eθ-enⁱ* is the part that means "I".

	<i>Me</i>	<i>You</i>	<i>Him</i>	<i>Us</i>	<i>You</i>	<i>Them</i>	<i>It</i>
<i>I</i>		<i>hei-eθ</i>	<i>nei-aⁿ</i>		<i>hei-eθebä</i>	<i>nei-aⁿna'</i>	<i>nei-17</i>
<i>You</i>	<i>hei-aⁿ</i>		<i>hei-aⁿ</i>	<i>hei-eiäⁿ</i>		<i>hei-aⁿna'</i>	<i>hei-17</i>
<i>He</i>	<i>nei-e</i>	<i>hei-e</i>	<i>hi-ä</i>	<i>hei-ein</i>	<i>hei-eibä</i>	<i>hi-ä</i>	<i>hi-17</i>
<i>We</i>		<i>hei-ä</i>	<i>nei-äbä</i>		<i>hei-äbä</i>	<i>nei-äbä</i>	<i>nei-awubä</i>
<i>You</i>	<i>hei-ubä</i>		<i>hei-äⁿbä</i>	<i>hei-eiäⁿbä</i>		<i>hei-äⁿbä</i>	<i>hei-awubä</i>
<i>They</i>	<i>nei-ei</i>	<i>hei-ei</i>	<i>hi-änaⁿ</i>	<i>hei-ein</i>	<i>hei-eibä</i>	<i>hi-änaⁿ</i>	<i>hi-awü</i>

The transitive imperative forms differ somewhat from the indicative: *-un*, *-in*, implies the object of the third instead of the first person. Probably it expresses only the subject of the second person.

<i>bixaⁿ-x-u</i>	like me!
<i>bixaⁿ-x-unⁱ</i>	like him! like them!
<i>hi-s-inⁱ</i>	fear him!
<i>häseinä-b-inⁱ</i>	hate him!
<i>bixaⁿ-t-aⁿ</i>	like it!
<i>bixaⁿ-θ-eiäⁿ</i>	like us!
<i>bixaⁿ-θ-ä</i>	do you (pl.) like him!

The negative imperative, with prefixed *tei-bä-*, has the same suffixes. The forms referring to an animate object of the third person are preceded by connective consonants which in the indicative of the same verbs occur before the first and second persons objective.

¹⁷ Possibly a final surd *a* has escaped notice in these forms.

CONNECTIVE SUFFIXES

The transitive pronominal endings are not added directly to the stem, but are invariably preceded by one of five consonants: b, n, s, θ, h. At first regarded as part of the pronominal suffix, later as a connective characteristic of each verb, these consonants were later seen to correspond to the "instrumentals" of Dr. Jones.¹⁸ Before this, in fact, -h had been recognized as a causative. The four other consonants, on the other hand, do not appear to be significantly instrumental in Arapaho, except in so far as they all occur only on transitive verbs. They certainly do not in most cases refer, except by the remotest implication, to a part of the body or a type or shape of instrument. There are also scarcely any observed instances of one stem appearing, under the same or an altered meaning, with any other than its characteristic consonant.¹⁹ The designation "instrumentals" therefore seems of dubious applicability in Arapaho.²⁰

It may be added that a search for a possible phonetic relation between stem and connective consonant gave no results.

Meaning	Verb	Me	You	Him	Us	You	Them	It
see	a ^a ha	b ²¹	b	w	b	b	w	t
strike	ta ^a	b ²¹	b	w	b	b	w	t
hate	äseinä	b ²¹	b	w	b	b	w	[t]
shoot	tcä	b	b	b	b	b	b	t
tell	itawū	n	n	n	[n]	[n]	n	t
eat	bī	n	n	n	n	n	n	w
reach	ouxä ^a -ta	n	n	n	[n]	[n]	n	-w
fear	ī	s	s	x	s	s	[x]	t
cut	kā ^a u	s	s	s	s	s	s	x
like	bixa ^a	θ ²²	θ	θ	θ	θ	θ	t
peg flat	sä ^a 'iθi-xa	h	h	h	h	[h]	h	h
strike	bä ^a -xa	h ²³	h	h	h	h	h	h
kill	nä-nähä	'	'	'	'	'	'	t

These connectives or instrumentals change somewhat according to the person of the animate object expressed in the pronominal endings which follow them, and in part according to the stem. Such variations, which are illustrated in the following table, are clearly of a phonetic origin. But a radical change undergone by the consonant

¹⁸ Am. Anthropol., n. s., vi, 403, 1904; Bur. Am. Ethn., Bull. 40, 807, 1911.

¹⁹ Except bīi, find, which occurs both as bīi-n and bīi-h; änä^aka-b, änä^aka-n, loosen; and ci-n, ci-h, capture.

²⁰ Compare Michelson, Am. Anthropol., n. s., xv, 476, 693, where substantially the same contention is advanced as regards Fox.

²¹ w with subject of second person singular and third plural.

²² x with subject of second person singular and third plural.

²³ This is the only stem found with the glottal stop.

when the object denoted by the pronominal suffix is inanimate, especially from -w to -t, can scarcely be due to any merely phonetic laws. The author sees in this thorough difference of form when the object is inanimate a further argument against the instrumental nature of these connectives.

CLASSIFIED LIST OF STEMS

A number of transitive verb "stems" follow, arranged according to their "connective" suffixes. This list is followed by one giving the principal ascertained intransitive verbs, which lack connectives.

TRANSITIVE

-b, -w

a ^h ha-b	see
ānā ^h ka-b	loosen (also with -n)
a ^h tana ^h ta-b	buy
ābitā-b	steal
āseinā-b	hate
āyiātā-b	pursue closely
bās-ānā-b	think of highly
ka ^h a ^h -b	bite
ni-b	marry
tousā-b	bathe
ta-b	strike
ta ^h ya-b	bite
tāhi-b	help
tā-b	cut, break off
tcā-b	shoot
wa ^h -ci-e-b	take into water

-n

outāyā ^h -n	hang up to dry
awūna-n	pity
ā ^h ina-n	know
iyiha ^h -n, yiha ^h -n	go to, go after, pursue
isa-n	alarm, scare up
icitā-n, ite-n, ātā-n, tā-n	take, catch, seize
nou-tā-n	bring out
tei-tā-n	take in, bring
bāsā-n	touch
bī-n	eat
bi-n	give
bīi-n, bīi-h	find
koutesa ^h -a-n	chase, drive off
ka ^h ā ^h ei-n	cut open belly
ka ^h ē-n	lose grip on
ka ^h koua-n	envy
ka ^h ne-n	open (ka ^h u-s, cut)
kayei-n	pull out, pull off
nouxā-n	meet
nou-sa-n	drive out
nota-n	ask, question (noti-h, seek)
n-i ^h a-n	go with, come with
nītou-n	breathe in, suck in

cī-n, cī-h	take, capture
cinouhu-n	resemble
tou-n, tanou-n	hold
ta-n	pour
ta'xa-n	kick
wa'awa'a-n	go in, draw in, suck in

With suffix -ta:

ouxā ^a -ta-n	reach
ici-ta-n, ic-ta-n	make (n-ici-h, make)
θa ^a wa-ta-n	believe
kousa'ā ^a -ta-n	attack
nā-nāhā-ta-n	kill for
cī-ta-n	capture for
touku-ta-n	tie to
tea'ā-ta-n	perceive, notice
tcei-ta-n	visit

With suffixes -wu, -bā:

ata-wu-n	eat up for
isi-bā-n	lay down, go to bed with
θei-wa-n, θei-ka-h	carry on back
tawaha-wou-n	cut tree down for
waθanaha-wu-n	write to
waxu-bā-n	imitate a bear

-s, -x

(n-)ī-s	fear
itā-s, itā-s	meet, reach, arrive at, come to
bā-s	touch
ka ^a u-s	cut (ct. ka ^a ne-n, open)
nou-ta ^a -s	carry out
tanā-s	pierce, make hole in
tcei-s	give here
wahani-s	unite
waxu-s	paint

-θ

ā ^a θā ^a -θ	rub
ā ^a θi-θ	narrate
a ^a kā ^a -θ	take home
āneti-θ	speak to
bixa ^a -θ	like, love
ka ^a koutci-θ	scratch
sixahā ^a -θ	do thus, show
ciyi-ta-θ	make disappear for

With suffix -ku:

(i-)tou-ku-θ	bind, tie to
θei-ku-θ	put in
ka ^a ka ^a ni-ku-θ	uncover
nohū-ku-θ	lift up, carry
nisā ^a -ku-θ	bind
tcei-ku-θ	release

-h²⁴

atā-h	give
-axa-h, -āxā-h	bring, take, carry (in, back, etc.)
*āsini-h	anger, be angry at (āsina-nā-t ¹ , anger)
-i-θetca ^a -h	think

²⁴ Starred forms show this suffix with an indisputable causative force.

*h-itea ^a -h	give pipe to, cause to smoke
iya-h	ignore, not know
bä-xo-h, bä-xa-h	strike
*bäta-h	give medicine to, doctor
bii-h, bii-n	find
θouu-h, θä ^a -h	crush, grind, chew (θaxan, forcibly)
θa ^a -ku-h	follow
θei-ka-h, θei-wa-n	carry on back
*θia ^a -ku-h	make stand
koxtauw-h	do to, meddle with, copulate with
ka ^a kax ^a -ka-h	stab, pierce, sting
kataya-h	cover up
*noti-h	search for, seek (nota-n, ask)
nätäni-h	deceive, trick
n-iei-h, ici-ta-n	make
nieka-h	whip
sä 'iθi-xa-h	peg out flat
ei-h, ei-n	capture, take
*teäbi-xa-h	carry, transport, cause to travel
*teitei-h	cause to enter, let in
wawa-h	throw over, scatter

INTRANSITIVE

ouhu	climb
ouθ	hang
ot	comb
a ^a -ku-ä ^a	thaw, be warm
a ^a -t-ä ^a	stand
awüna ^a	be closed
äθixte-hi	shove
anä ^a θi	be different
ätei-ni	make camp, stay over night
ätei-yaka-ni	come to a camp
hiθa ^a bei	be true, right, so
ixane-hi	provide for, favor
ina ^a -ei	hunt
inenitä-ni	be well, live
inikati	play
isi-bi	lie down, go to bed
isi-ei	be lying
itou, ätou, ätei-a ^a	shout, make noise, roar (cf. n-itou-hu)
h-itou	beg
itä ^a -ei	take arms
bäi-ni	be bloody, bleed
bei-teixu	be red hot
bäbä-ä 'ei	be curly haired
bänä, ben ^a	drink
bäna ^a θei	smell
bäsäyei	touch
bixou	emerge, rise to surface of water
biwa ^a -hu	weep, cry
hähisi	wash
θiä ^a bä	snore
θibi	have to do with clothing
θiya-hu	cut hair
koxunä	hide, enter a hole
koxahei	dig
ka ^a -us	drop, fall
ka ^a 'uye-	pick fruit
ka ^a out-	make dust
ha ^a hei, kohayei	get up, rise, ride
ka ^a kou	patch on
kaxou-hu	chip off

kaxa'a	crack, fissure, dent
kanāne-hi	be a coward
ka ^a ni, kana ^a ni	be slow
kou, kanou, kana ^a	swell (kou-, kanou-, long, far)
kaya'a-hu	fly away
nā-, nāya ^a	take off (clothing), dress
nā ^a θā ^a	stay
nā ^a kuθei	push
nā ^a nou	get ready
nāniθe	menstruate
nātcā, netce	die, be dead
neninā ^a k ^a	be blind
nihā-ni	own
nih ^a , nih ^a ā	sting, hurt, irritate
nibou-hā	use perfume
n-itou-hu	shout, whistle, breathe (cf. itou)
sāse-hi	play, trouble, make noise
sāya	chew
cicītei	stretch
ciyiha ^a ti	disappear
tou	strike (tou-ku, bind)
tai	be cold
tāye-hi	be ashamed
tcena ^a	jump
tcāni	skin, flay
tcāste	scratch
tcāteeti	cut, hurt
tcin	plant, bury
wūa ^a	rest in water
wā ^a θā ^a , wanā ^a θā ^a	abound
waxusi	paint
yana-hu	pledge, vow

In general, transitive stems are used intransitively, or vice versa, so far as their meanings permit, without further change than that produced by the loss or insertion of an "instrumental" connective. The following are the principal observed cases of a more extensive modification.

<i>Transitive</i>	<i>Intransitive</i>
akū-hu-, cook	a ^a ku-, thaw, be warm
ā ^a ina-n, know	ā ^a in-, know
hīnitā-(t), inhabit	hānitā-, live, stay
isi-bā-n, lay down	isi-bi-, lie down; isi-si-, be lying
ici-ta-n, n-ici-h, do, make	ici-hi-, n-ici-ti-, āci-ta-, do, make
bāsā-n, touch	bāsā-yei-, touch
bīi-n, bīi-h, find	bīi-ti-, bīi-hā-, find
bī-n, eat	bī-θi-, eat
notī-h, seek, nota-n, ask	notī-hi-, look, search
naha', nāhā', kill	nā ^a ihei-, nāiha ^a -, kill
ni-b, marry	nī-ni-, marry
tcā-b-, shoot	tea-ba ^a -, shoot
sā ^a ku-θ, bind	sa ^a ku-hu-, be tied

NOUNS

PLURAL

Arapaho nouns take a plural suffix whether animate or inanimate, this distinction of gender being expressed by the verbs, adjectives, or numerals referring to them and not in the nouns themselves.

The most common plural suffix is *-naⁿ*. This has been observed on *hie⁽ⁱ⁾*, liver; *bäseitⁱ*, urine; *hāⁿxēi*, wolf; *hou*, raven; *bīteiⁱ*, dove; *hahāⁿti*, cottonwood, tree; *kakāⁿx⁽ⁱ⁾*, tent pole; *hahaⁿuktāⁿ*, hair braid; *haxaⁿanāⁿkāⁿ*, stone; *haⁿθaⁿ*, penis; *hāⁿkuhāⁿ*, head; *nāⁿtcāⁿ*, chief; *hānāⁿtcāⁿ*, buffalo bull; *hinenⁱ*, man; *hisei*, woman; *waⁿa*, *waⁿaha*, moccasin; *kakuiy*, tube, gun, whistle; *cīsaⁿwaⁿ*, tobacco; *teibātⁱ*, sweat-house; *wanaⁿ*, wrist; *hīⁿēinaⁿ*, buffalo; *bīsāⁿ*, worm.

With some slight or apparent change of final vowel, this ending occurs also in the following words:

waxⁿ, grass, herbage, *waxuinaⁿ* (contrast *waxuⁿ*, medicine, below)
waxucitⁱ, painting, *waxucitanaⁿ*
hāⁿkāⁿxⁿ, saddle, *hāⁿkāⁿxuinaⁿ*
nicⁿ'tceinanⁿ, buckskin (probably antelope skin), *nicⁿ'tceinanaⁿ* (for *nicⁿ'tceinanⁿnaⁿ*)
bāteet⁽ⁱ⁾, *wateet⁽ⁱ⁾*, stomach, *bāteetanaⁿ*
θikⁿ, ghost, *θeikanaⁿ*
θiwⁿ, bridge, boat, *θiwanaⁿ*

-aⁿ, *-haⁿ* (probably really *-aⁿ'*, *-haⁿ'*) is also common. Before it *-ä*, *-e*, change to *a*; and *-x* becomes *-θ*, *-c* becomes *-θ* or *-x*, *θ* becomes *-t*.

bātāⁿ, heart, *bātāⁿhaⁿ*
nicitcāⁿ, antelope, *nicitcāhaⁿ*
niⁿ'ihi, eagle, bird, *niⁿ'āhihaⁿ*
nīteiyē, river, *nīteihahaⁿ*
hōu, robe, *houwaⁿ* (ct. *hou*, raven, above)
haⁿkūhuⁿ, mouse, *haⁿkūhuhaⁿ*
hāniⁿ'i, ant, *hāniⁿ'ihaⁿ*
hanaxaⁿ'āhiⁿ'i, boy, *hanaxaⁿ'āhihaⁿ*
hātāⁿ, sinew, *hātahaⁿ*
waxuⁿ, medicine, *waxūwaⁿ* (ct. *waxⁿ*, above)
wou, buffalo calf, *wouhaⁿ*
tcāⁿ'einox, bag, *tcāⁿ'einaⁿθaⁿ*
haⁿ'uwanux, parfleche case, *haⁿ'uwanaⁿθaⁿ*
beic⁽ⁱ⁾, nose, *beicⁿθaⁿ*
benec, arm, *bānoxaⁿ*
bāsⁱ, wood, *bāxaⁿ*
waⁿ'aⁿθⁱ, leg, *waⁿ'aⁿtaⁿ*
beiteicⁿ, tooth, *beiteitaⁿ*
teaⁿoxⁿ, foe, Comanche, *teaⁿθaⁿ*

tee'ā^oox^a, club, tomahawk, tee'ā^oθa^a
 bīteic, leaf, bīteixa^a
 teicihi, night hawk, teiciha^a (sic)
 hitiθiθ, kidney, hitiθiθa^a (sic)

Lengthening or vocalization of the final vowel is fairly frequent:
 i>ī; u>ū; ä>ei; a, a^a>ou, au.

hoθⁱ, arrow, hoθī
 bihiⁱ, deer, bihiⁱ
 tea^aθaniⁱ, prairie dog, tea^aθanīⁱ
 wox^a, bear, woxū
 wa^aax^a, nail, wa^aaxū
 netcⁱ, water, netcī
 niⁱetcⁱ, lake, niⁱetcī
 hä^atetcⁱ, ocean, hä^atetcī
 wāsā^aθⁱ, arrowpoint, wāsā^aθī
 häbäsⁱ, beaver, häbäsī
 hiθa^axu, guts, hiθa^axū
 kaha^a'a^{wu}, creek, kaha^a'a^{wū}
 hoseina^a, meat, hoseinou
 wa^aketcⁱ, cattle, wa^aketcī
 hotä^a, mountain sheep, hotei
 bā^acisä^a, eye, bā^acisei
 hä^aw^a, house, hä^awū
 haθa^a, star, haθa^a'ū (ct. haθa^a, penis, above)
 wanatana^a, ear, wanatana^a'ū

Apparently formed by a special suffix:

heθ, dog, heθäbī
 ka^a'a^a, coyote, kāxawū
 hiwaxuhä^ax, horse, hiwaxuhä^axäbī

CASES

An oblique case, usually an objective, was observed on a few nouns.
 It seems to be formed by -nⁱ.

hisei, woman, objective hisei-nⁱ, compare text III, note 28.

wot nāhā' nīteihe-hinenⁱ ni'bābānāhāxk^a, this Kiowa was handsome;
 hä^aixnouxanē nīteihe-hineni-nⁱ, he met a Kiowa.

tuxkanä' bānīnā^atⁱ nītea-ou-nⁱ bīteineni-nⁱ, Tuxkanä' gives a blanket to
 Bīteinenⁱ.

nāhā' hinenⁱ tawā^atⁱ hiⁱhiⁱ haxa'anā^akä^a hinä' hineni-nⁱ, this man struck
 with a stone that man.

A general locative, also serving as an instrumental, is more frequent. It takes the forms -hä', -nä', -bä'; also -i', nⁱ, -ī, -ū, recalling both one type of plural and the objective.

näyei, my tent, näyeihä'
 hi'ä'θⁱ, his leg, hi'ä'tä', hi'ä'θinⁱ (plural)
 bei, awl, beihä'
 niteiye, river, niteihä'
 haxa'anä'x, ax, haxa'anä'θä'
 nina^a, tent, nina'nä'
 hä'xebⁱ, spring, hä'xebinä'
 bā'a^a, road, bā'a'nä'
 ha'kühä^a, head, ha'kühä'nä'
 hakä'x, tent pole, hakä'x'inä'
 kakuie, kakuiy, gun, kakuiyanä'
 tetcena^a, door, tetcena'nä'
 teäseix, one, teäseiya'nä', in one spot
 wax^a, grass, waxu'unä'
 h-ä^a, bed, h-ä'bä'
 hoti', wheel, hotibä'
 netcⁱ, water, netci
 tea'otä'ya^a, hill, tea'otä'nī
 hahä'tⁱ, cottonwood tree, hahä'ti', hahä'ti-n'
 bita'ä'wu, earth, bita'a'wū
 wāw^a, ice, wa'awū
 heθ-aw-akay-a-ni, in the doghouse

POSSESSION

The personal possessive affixes of nouns are illustrated by the following examples:

<i>Word</i>	<i>Father</i>	<i>Mother</i>	<i>Older brother</i>	<i>Daughter</i>
Vocative	neixa ^a	na'a ^a		natā
My	neisana ^a	neina ^a	nāsähä'ä	natāne
Your (s.)	heisana ^a	heiha ^a	hāsahä'ä	hatāne
His	hinisanā ^a (n')	hīnan ⁱ	hīsaha'a ^a	hitāna ^a
Our (incl.)	heisanānin ⁱ	heinānin ⁱ	hāsähä'ehin ⁱ	hatanihin ⁱ
Our (excl.)		neinānina ^a	nāsähä'ähina ^a	
Your (pl.)		heinānina ^a		
Their	hinisanānina ^a	hinaninina ^a		hitanehina ^a
Somebody's	beisana ^a	beina ^a	bāsähä'ä	

<i>Word</i>	<i>Grandfather</i>	<i>Son</i>	<i>Sons</i>	<i>Robe</i>
Vocative	nābäciwa ^a	ne'i		(hou)
My	nābäcibähä	neih'ä ^a	neih'a'ha ^a	natou
Your (s.)	hābäcibähä	heih'ä ^a	heih'a'ha ^a	hatou
His	hibäciwaha ^a	hī'a ^a	hī'a'ha ^a	hitouwū
Our (incl.)		heih'ehin ⁱ		
Our (excl.)				
Your (pl.)				
Their	hibäcibähäina ^a			
Somebody's				

<i>Word</i>	<i>Robes</i>	<i>Penis</i>	<i>Dog</i>	<i>Tent</i>
Vocative	(houwa ^a)	(haθa ^a)	(heθ)	(nina ^a)
My	natouwa ^a	neiθa ^a	netäθäbibi	näyei
Your (s.)	hatouwa ^a	heiθa ^a	hetäθäbibi	häyei
His		hiniθa ^a	hitäθäbiwu	hiyei
Our (incl.)	hatouwun ^{aa}		hetäθäbibin'	häyeihin'
Our (excl.)				näyeihina ^a
Your (pl.)				häyeihina ^a
Their	hitouwuna ^a		hitäθäbibina ^a	hiyeihina ^a
Somebody's		bäθa ^a		

Some of the above forms under "our," "your," and "their" may really denote plural instead of singular nouns. The "vocative" in the terms of relationship is the term of direct address: "father!" In the other words given, the corresponding form in parentheses is the nominative.

Several nouns show a suffix with labial consonant in all three persons. This perhaps denotes acquirement of possession.

nat-ahä^atī-bi, my tree
 hit-ahä^atī-wu, his tree
 net-äθäbī-bi, my dog
 na-nouhuhä-bi, my kit-fox
 nā-nä^atcä^a-wa^a, my chiefs
 nā-teia^ani-wa^a, my children

PRONOUNS

The demonstratives, which are alike for singular and plural, animate and inanimate, are:

nähä', nuhu'	this
hinä'	that, visible, or near the person spoken to
hini	that, invisible, or of reference only

Compare: nā'äsi, thus, nā'eisi, nā'äsa^a, it is thus, resembles, nänä-hisou, alike, nā'aθixtⁱ, he resembles.

Interrogatives:

hä ^a nä'	who
hä ^a you	what
hä ^a ta ^a , tä ^a ti, tä ^a teiha ^a	where
hä ^a tax ^a	whenever
tou	when
tousa ^a	why, what kind
tahou, tahoutax ^a	how many
touθouhu'	for how much, at what price

A real personal pronoun does not exist. Independent words translatable by English pronouns occur only in answer to questions, or

occasionally for tautological emphasis. They are verbs formed from a demonstrative stem.

nänä-ni-na ^a	it is I, "I"
nänä-ni-t'	it is he, "he"
nänä-häxk ^a	it must be he, "he"

Compare:

hineni-ni-na ^a	it is a man that I am, "I am a man"
hisei-ni-na ^a	I am a woman
hahä-kä-ni-na ^a	I am a fool, I am crazy

The "independent possessive pronouns" are also verbal sentences, with a possessive prefix and a subjective suffix of the third person.

mine	neinis'tä't' ("he is mine")
yours	heinis'tä'ti
his	hinis'tä't'
ours	neinis'tä'tibina ^a
yours	heinis'tä'tinina ^a
theirs	hinis'tä'tinina ^a

ADVERBS

-ihi', -uhu', is the commonest ending of independent words of adverbial or prepositional force. Without the suffix, several of the stems occur as prefixes of verbs.

tcän-ihi', under (tcän-i-)
täs-ihi', on (täs-i-, täx-)
ka ^a -n-ihi', slowly (kou-)
xou-w-uhu', straight (xou-)
bä-h-ihi', all (bä-)
nä ^a -ūhu', out from the river or valley (nou-)
hanawu-n-ihi', ha ^a wui-nih-ihi', down-stream
n-ä ^a wū-hu', south
hawahō-uhu', many times
hi'-ihi', hu'-uhu', with, on account of
hi ^a -w-ūhu', really, truly (hi ^a -bei-, to be so)
θei-n-ihi', θeinei-si, inside
kouθ-ihi', some time later
kox-θ-ihi', over, beyond (kax-, violently, through)
ka ^a -kaxuθ-ihi', over a hill
kanaw-ūhu', meanwhile, at the same time
kanax-uhu', obstinately, unduly
nih-ihi', along, during
tou-θo-uhu', at what price (tou, what)
kä ^a kä ^a -θ-ihi', homeward

, -bä, -bi, -wu, is another ending of adverbs, whose stems in some cases also serve as prefixes of verbs.

hixte-ä-bä, up, above (hixte-i-)
hä ^a -b', toward (hä ^a -bä-, hä ^a -bi-)
nänä-bä, nänä-bi, north
nä ^a -tä-bä, at the rear of the tent, opposite the door

-āⁿwu refers to the ground :

bi^ta 'āⁿwu, earth
hiθāⁿwu, on the prairie
hiθawāⁿwu, under ground
naxutāⁿwu, above ground

-ou :

hān-āⁿ, hard, hān-ou, very hard
hā 'nā 'ei, fast, hā 'nā 'ou, very fast
nā 'āsi, thus, nānāhis-ou, alike
hā-nā', who, hā-y-ou, what

NUMERALS

The Arapaho numerals given in the vocabulary are those used in counting, and mean "— times." The cardinals used in sentences are formed like verbs with the prononinal endings -i-θⁱ, animate, and -ei, -i-i, inanimate. They occur either with a prefix hā- or with prefixed reduplication. In this reduplication initial y of the stem turns to n. The relationship of these two sounds has been mentioned before. The stem of the cardinal numeral "one" is the same as that of "two," nīs, but has the corresponding singular suffixes -ix-tⁱ and -e-tⁱ. In the ordinal and the forms for "six," the stem for "one" appears in what may be its original form, nīt. The stems for "nine" and "ten" are used without reduplication or the prefix hā-. The ordinals are formed, with reduplication, by the suffix -awā. This is sometimes further enlarged by the ending -na' when inanimate, and when animate has the ending -tⁱ. Numeral classifiers have not yet been observed, except -āⁿnā, which is employed when camps, towns, herds, or portions are referred to, and which may be a locative or collective: yāneyi-āⁿnā-naⁿ, four bands.

	<i>Counting</i>	<i>Cardinal</i>	<i>Cardinal</i>	<i>Ordinal</i>
1	tcāseix	hā-nīs-i-xt ⁱ (an.) hā-nīs-et ⁱ (inan.)	nā-nīs-i-xt ⁱ nā-nīs-et ⁱ	nā-nīt-awā-t ⁱ nā-nīt-awā-(na')
2	nīs'	hā-nīs-i-θ ⁱ (an.) hā-nīs-ei (inan.)	nā-nīs-i-θ ⁱ nā-nīs-ei	nā-nīs-i-awā-t ⁱ nā-nīs-i-awā-(na')
3	nāsa ⁿ , nāsax	hā-nāi-θ ⁱ	nā-nāi-θ ⁱ	nā-nāsi-awā-t ⁱ
4	yein'	hā-yeini-θ ⁱ	yā-neini-θ ⁱ	yā-neini-awā-t ⁱ
5	yāθani'	hā-yāθani-θ ⁱ	ya-nāθani-θ ⁱ	ya-nāθani-awā-t ⁱ
6	nīt-a ⁿ -tax ⁿ	hā-nīt-a ⁿ -taxu-θ ⁱ	nā-nīt-a ⁿ -taxu-θ ⁱ	nā-nīt-a ⁿ -taxu-awā-t ⁱ
7	nīs-a ⁿ -tax ⁿ	hā-nīs-a ⁿ -taxu-θ ⁱ	nā-nīs-a ⁿ -taxu-θ ⁱ	nā-nīs-a ⁿ -taxu-awā-t ⁱ
8	nāsa-a ⁿ -tax ⁿ	hā-nāsa-a ⁿ -taxu-θ ⁱ	nā-nāsa-a ⁿ -taxu-θ ⁱ	nā-nāsa-a ⁿ -taxu-awā-t ⁱ
9	θi' ⁿ	θi'a-taxu-θ ⁱ		θi'a-taxu-awā-t ⁱ
10	bātā-tax ⁿ	bātā-taxu-θ ⁱ		bātā-taxu-awā-t ⁱ

The numerals from 11 to 19 are formed from those for 1 to 9 by the suffix *-ini*, which occurs also on words denoting measures of time; the tens by the ending *-a'*, *-a'*, or *u'*, with change of preceding consonant.

1	tcāseix	11	tcāseini	40	yeyu'
4	yein'	14	yeinini	50	yāōaya'
5	yāōan'	15	yāōanini	70	nīsa'tasa'
7	nīsa'tax"	17	nīsa'tax"ini	80	nāsa'tasa'
8	nāsa'tax"	18	nāsa'tax"ini		

Other forms: *nītaⁿ*, first, before; *nīsaⁿouhu'*, *nīsaⁿha'a*, both; *tcāⁿxaⁿ*, another one; *tcāseix*, one, inanimate; *tcāⁿsā'*, one, animate.

The suffix *-taxⁿ*, in 6 to 10, appears to be found also in *tahoutaxⁿ*, how many, and *hāⁿtaxⁿ*, whenever.

TEXTS

Only enough textual material is presented here to illustrate some of the leading structural and phonetic features that have been outlined. Several hundred pages of Arapaho texts were secured by the writer. But the foregoing description is, after all, not more than a sketch of part of the salient traits of the language; and any analysis making a pretense at even approximate completeness was impossible, without a study so thorough-going that it would have crowded into the background indefinitely other work which was a nearer duty. With the possible exception of Eskimo, Algonkin, as represented by Arapaho and Yurok, is far the most difficult form of speech encountered by the writer at first hand. How much remains to be done in Arapaho before the language is really understood is revealed by the notes that have been added to the appended texts. The purpose of these notes is elucidation; but whoever consults them will not need the advice that for nearly every point explained there is a problem raised, and several that are not even touched on. For these reasons the entire body of texts recorded has been put in the possession of the Bureau of American Ethnology, in the hope that under the hand of Dr. Michelson or some other investigator better fitted by capacity or long occupation with Algonkin than the writer, their publication will ultimately result in greater usefulness than could be attained now.

TEXT I—A PRAYER¹

hā ⁿ -heisanā ⁿ 'nin ¹²	nānītānē ⁿ 'ina ⁿ³	na-h ^a bācibē ⁿ 'hin ¹⁴	hāθē ⁿ 'i ³		
Ha! our father,	hear us,	and grandfather.	All		
naha ⁿ 'ā ⁿ sē ⁿ 'hi ⁿ 'it	nanaxkunihi ⁿ 'ita ⁿ 'wa ⁿ⁶	hīci ⁿ⁷	nī ⁿ 'ha ⁿ 'pya ⁿ		
the shining ones	I also mention,	day	yellow,		
hāse ⁿ 'isen ¹⁸	hī ⁿ 'i'θeti	nā ⁿ 'yeitci	i ⁿ 'i'θetin ⁹	bita ⁿ 'a ⁿ 'wu	ū ⁿ 'θetin ⁹
wind	good,	timber	good,	earth	good.
tcāsāē ⁿ 'hi	hā ⁿ θitcā ⁿ 'θtin ¹⁰	hiθa ⁿ 'wā ⁿ wu ¹¹	naxutā ⁿ 'wu ¹¹		
Animal	listen	under the ground!	above the ground		
tcāsāē ⁿ 'ihi	nātei ¹²	teesāe ⁿ he ⁿ 'iha ⁿ¹³	tcibāh ⁿ 'tcāhā ⁿ 'θti ¹⁴		
animal,	in water	animals,	all listen!		
hāteiyawa ⁿ ni ⁿ 'na ⁿ¹⁵	ha ⁿ twani ⁿ 'bini ¹⁶	hā ⁿ tihi ⁿ 'iθē ⁿ 'hi ¹⁷			
Your food-remnants	we will go to eat.	May they be good!			
hā ⁿ tihi ⁿ tcihikā ⁿ 'tā ⁿ¹⁸	ha ⁿ waθa ⁿ 'w ^u	hināiti ⁿ 't ¹⁹	hā ⁿ tihiawa ⁿ 'ho ⁿ 'ua ⁿ		
May there be long	breath	life!	May increase		
hinā ⁿ tāni ⁿ 't ¹⁹	teia ⁿ nā ⁿ ' ²⁰	hānāteciha ⁿ 'ye ⁿ 'it ²¹	hisē ⁿ 'hihi ²²		
the people,	children	of all ages,	girl		
naha-hana ⁿ 'xa ⁿ 'āhixi ²²	nax ⁿ 'hine ⁿ	hānāteixa ⁿ 'yē ⁿ 'it	hi ⁿ 'sei		
and boy	and man	of all ages,	woman,		
bāh ⁿ ē ⁿ 'ihāhin ²³	hānāteixa ⁿ 'yē ⁿ 'in	bātābi ⁿ	ha ⁿ tninioxanē ⁿ 'iā ⁿ 'nou ²⁴		
old man,	of all ages,	old woman.	It shall give us strength		
bi ⁿ 'ciwa ⁿ²⁵	ha ⁿ neika ⁿ 'huθi ²⁶	hīci ⁿ 'c	hā ⁿ 'θā ⁿ	nēixā ⁿ ' ²⁷	
the food	while runs	the sun.	Oh that!	my father!	
teixtcā ⁿ 'ā ⁿ 'θti ²⁸	nābā ⁿ 'ciwa ⁿ²⁷	nā ⁿ nihi ⁿ 'iθa ⁿ ' ^a ⁿ²⁹	kakau ⁿ 'θetca ⁿ³⁰		
listen,	my grandfather!	for what I ask,	thoughts,		
bātā ⁿ ' ³¹	bixa ⁿ θeti ⁿ 't ³²	hanaw ⁿ ni ⁿ ātī ⁿ 't	ha ⁿ tnini ⁿ θixanābeθen ³³		
heart,	love,	happiness!	We will eat you.		

Notes

¹ Bull. Am. Mus. Nat. Hist., xviii, 315, 1907.² 1st pers. pl. inclusive: neisanaⁿ, my father.³ -n-, connective; -einaⁿ, he—me or they—us: thou—us is -eiāⁿ.⁴ naⁿ' or nahⁿ is "and"; the -h- may be part of this or part of the possessive elements hā—h-inⁿ, our; nābācibā, my grandfather.⁵ Also a prefix of verbs.⁶ naⁿ, for naⁿ' or nahⁿ, and; -naxku-n-, with, a prefix of verbs; nihⁿ-, incomplete action; ita, stem; -w-, connective; -aⁿ, I—him.⁷ Cf. hiciⁿ, sun, below.⁸ Cf. hāsaⁿ'aⁿtⁿ!, swift, and the prefix of verbs hās-, swiftly, violently, very, hard.⁹ These two words were heard as parts of the preceding ones, to the final vowels of which their initial vowels are assimilated.¹⁰ hāⁿθi- apparently equals hāⁿti-, optative; -inⁿ-, transitive imperative.¹¹ -āⁿwu, an ending of adverbs referring to the ground.¹² Locative of netcⁿ!, water.¹³ -haⁿ-, plural; -ēhi, -ehei, may be -ēhi, denoting the agent, -ēhi, face, or -hiⁿ-, -hāhi, diminutive.

¹⁴ *tei*-, imperative, regular in the negative, occasional in the positive; *-bäh'*, all; *teähä*-*t-i*, compare *teä*-*t*-, note 10, is or contains the stem.

¹⁵ "Crums." Plural, with 2nd pers. possessive.

¹⁶ *ha*-'*t*-, purposive future; *wan-i*-, go to do; *bi*-, eat; *-n*-, connective.

¹⁷ *hä*-'*tih'*-, optative or precative (cf. note 10), *-ih'* probably denoting incompleteness of action; *iöe* appears to be the stem meaning good, cf. above, note 9; *-hi*-, intransitive.

¹⁸ *hä*-'*tih'*-, as in last word; *-teihi*-, possibly *tei*-, imperative, and *n-i*-'*ih'*-, incomplete action; *kä*-'*t-ä* suggests the "prefix" *kou*-, *kanou*-, long, far.

¹⁹ Cf. *hinen'*, man, *hinenitä*-, person, *hinana'*ei, Arapaho, *hiteni*, life symbol; *-it'*-, no doubt containing the pronominal ending of the 3rd pers., recurs below on abstract nouns.

²⁰ Plural (f) of *teia*-, child. The form has the appearance of a locative.

²¹ Unanalyzed, except for the abstract ending, cf. note 19.

²² *hisei*-, woman; *-hi'*-, *-hä'*-, *-hähi*-, etc., diminutive; *hanaxa'*aha, young man.

²³ *bähä'*ei, *behi'*-, old, with perhaps the diminutive suffix. Compare the stems for old woman, in the second word following, and for grandfather, as in note 4. The ending of the next word changes from *-t* to *-n*, evidently to agree with the unexplained *-n* of the present noun.

²⁴ *ha*-'*tni*-, or *ha*-'*t*-, *ha*-'*ta*-'*ni*-, purposive future; *-ni*-, perhaps *ni'*-, good; *-oxa*-, the stem, cf. *axa*-*wu*-, give me food, *-axa*-*h*-, to bring, take, carry; *-n* appears to be the connective, in spite of the *-h* of *-axa*-*h*; *-eiä*-'*nou* then would be the pronominal ending, not fully clear, though *-eiä* is thou—us.

²⁵ Unknown derivation from *bi*-, eat.

²⁶ *hä*-'*a*-, while, continuing; *-ne*-, for *ni*-, *nih'*-, incomplete action; *i-ka*-, stem, to move, especially to run, usually with the intransitive suffix *-hu*.

²⁷ "Vocative," 1st pers. possessive, regularly a shortened form in terms of relationship.

²⁸ Imperative: cf. notes 10 and 14.

²⁹ *nä*-, perhaps my; *nih*-, *nih'*-, *ni*-, *hi*-, that which, he who, where.

³⁰ *-iöetca*-'*h*-, to think; *kaka*-*xa*-'*änä*ta-, thought, think.

³¹ Indefinitive possessive prefix *b-ä*-, *b-ei*-, *w-a*-.

³² *bixa*-'*ö-eöen*-, I love you; for *-it* see note 19.

³³ *ha*-'*tni*-, one form of future of intent; *-niöixanä*-, unanalyzed; *-b*-, connective; *-eöen*-, I—you.

TEXT II—AN ADVENTURE¹

<i>bihi'</i> "Deer"	<i>hä</i> -' <i>nixina</i> -' <i>ei</i> ² now went hunting.	<i>hitaxa</i> -' <i>hok</i> ³ He came to	<i>wotix</i> accidentally	<i>touciniehin</i> one who was pretty
<i>hisein</i> ⁴ woman.	<i>behic</i> -' <i>nic</i> -' <i>tä</i> ⁵ All antelope	<i>hinaninouyuyaxkan</i> was her clothing.	<i>xanou</i> ⁶ Straightway	
<i>hä</i> -' <i>ixtce</i> -' <i>ciöänä</i> ⁷ then he wanted to court her	<i>tah</i> -' <i>nahawä</i> -' <i>nt</i> ⁷ when he saw	<i>hisein</i> ⁴ the woman.	<i>hä</i> -' <i>nixänēitaxawūinä</i> ⁸ Then she motioned for him to approach.	
<i>wa</i> -' <i>hei</i> "Well,	<i>ha</i> -' <i>tibiä</i> -' <i>öeöen</i> let me love you,"	<i>hä</i> -' <i>öa</i> -' <i>hok</i> ³ said to her	<i>bihi'</i> "Deer."	<i>nah</i> -' <i>nihäya</i> ⁹ "And yourself
<i>häcitanani</i> please,"	<i>hä</i> -' <i>öeihok</i> ³ she said to him.	<i>hänäiyiha</i> -' <i>nt</i> ¹⁰ Then he went to her.	<i>tä</i> -' <i>bä</i> ¹¹ Just	
<i>ha</i> -' <i>tnitena</i> -' <i>hok</i> ¹² he will be about to touch her,	<i>hina</i> -' <i>nanax</i> to his surprise	<i>hä</i> -' <i>nixwosätouhin</i> ¹³ then she cried (like a deer),	<i>tceścätcena</i> -' <i>ä</i> ⁹ suddenly jumped,	
<i>täcätebitä</i> -' <i>eixa</i> ¹⁵ ran off looking back.	<i>hä</i> -' <i>i</i> -' <i>biniha</i> -' <i>habä</i> ¹⁶ Then he saw she was	<i>bihi'</i> a deer.	<i>bihi'</i> "Deer"	<i>hä</i> -' <i>nixtäyē</i> then was ashamed
<i>ha</i> -' <i>wo-nih</i> -' <i>ot-biä</i> -' <i>änt</i> ¹⁷ at being deceived in loving.	<i>hä</i> -' <i>nätcätcä</i> -' <i>kä</i> -' <i>hut</i> ¹⁸ Then he returned	<i>taxtäyēhit</i> ¹⁹ ashamed.		

hā'nixxā'n'tā'ēinin Now later		bihi'i "Deer"	ta'bihi'ihinā'n'tin ²⁰ became like a deer.		nāyēθa'n'nān In the camp-circle	
hā'nixinikuhinā ⁿ²¹ then was chased		bihi'i "Deer"	wānti like	bihi'i a deer.	wānti Like	bihi'i a deer
nīθetouhāk ²² he cried,		wānti like	bihi'i a deer	tcātcena'a'n ¹⁴ he jumped,	wānti like	bihi'i a deer
hāhnā'kuhnāhāk ^u he fled on the prairie;			hābāhiyeihanā'n'tāk ^{u23} all pursued.		tīcītānāt ²⁴ When he was caught,	
hā'nixnānā'n'nīθa'kuān then his eyes looked different.		bihi'i "Deer"	hā'nixtatinān now had his mouth open.		hā'nixbāhāneiānā ⁿ²⁵ Then all held him.	
hā'nī At last	hā'nixteinīnī then he ceased	bihi'ihin ²⁶ being a deer.		nā'ā'θeihitī For this he is named	bihi'i "Deer."	

Notes

¹ Bull. Am. Mus. Nat. Hist., xviii, 20, 1902.² For hāⁿix-, see note 29 to following text; inaⁿ, hunt; -ei, causative, here: go to.³ -hokⁿ, it is said, they say. Cf. Michelson, Bur. Am. Ethn. Ann. Rept., xxviii, 237, 1912.⁴ An apparent instance of the objective or oblique case: hisei, woman.⁵ bā-, behiⁿ'i-, behici-, bābānei-, all, completely; naⁿ'sitcāⁿ, nisitcāⁿ, antelope.⁶ Also a "prefix" of verbs.⁷ tahⁿ-, when; n-aⁿha-w, see; -āⁿtⁱ, he—him.⁸ Cf. h-itaxaⁿ in the third word of this text; with this "stem" compare itāⁿ-s, itāⁿ-s, reach, meet. For hāⁿix-, see note 2: -wūnāⁿ, from -wu-n, to, for, with, or more probably from -awui-ni, become, begin, and -n-, connective, -āⁿ, -aⁿ, he—him (a form different from those given above in the table of transitive pronominal endings, and no less common; but their relation is not yet clear).⁹ For haⁿt-i-bixaⁿ-θ-eⁿenⁱ, I will love you.¹⁰ hānā- = hāⁿnāⁿ-, which see in note 29 to next text; iⁿyihaⁿt suggests the analysis iⁿyi-h-āⁿtⁱ, but the form otherwise found is stem iⁿyihaⁿ with connective -n-.¹¹ Also a prefix, but here heard as a separate word.¹² haⁿt-nī-; ite-n, take; -hokⁿ, see note 3.¹³ hāⁿix-; wos-ⁿ; āⁿtoū, itou, cry, make a noise, shout; -hi, intransitive; -n,ⁿ¹⁴ Cf. tceⁿsis, begin; tcā-, again, back, or perhaps reduplication here, "jumped about"; teenaⁿ'āⁿ, jump.¹⁵ Cf. tcā-, backward, again; tcēib-i-, aside, crooked; the stem seems to be the same verb of motion as in the word referred to in note 8.¹⁶ hāⁿix-, as ante; bini-h-, possibly from bū-n, bū-h, find; aⁿha-b-āⁿ, he sees him.¹⁷ Perhaps from bixaⁿ-θ, to love.¹⁸ hāⁿnāⁿ-, as above; tcā-, back, again; -tc-,ⁿ; i-kaⁿ-hu, run, travel; -tⁱ, he.¹⁹ tahⁿ-, when, because; tāye, be ashamed, as in the preceding sentence; -hi, intransitive; -tⁱ, he.²⁰ taⁿ-, for tahⁿ-. (ⁿ); bihiⁿ'i, deer; -hi-nāⁿti-n, compare nī-waxū-nāⁿtⁱ, she who turned into a bear, and the independent word wāⁿti in the next sentence.²¹ hāⁿix-; īn-i-, about, aimlessly, at random; -ku-hi-nāⁿ, possibly from -ku-θ, make a motion to, transitive, and -hi, intransitive.²² nī-θ,ⁿ; etou, for itou or āⁿtoū, shout; -hāk, for -hāxkⁿ, conditional, subordinating.²³ hāⁿ-, (ⁿ); bāh-, all, as in note 5; iⁿyeiha-n-, for iⁿyihaⁿ-n, pursue; āⁿtākⁿ, uncertain, but evidently contains the "conditional," as the word in note 22.²⁴ tiⁿc-i-, when; ite-n, catch; -āt, for -āⁿtⁱ, equals -āⁿtⁱ, he—him.²⁵ Again the prefix "all," as in notes 5 and 23.²⁶ Perhaps the intransitive verbifying suffix -hi.

TEXT III—TANGLED HAIR:

hinen	hänixā ^{u3} tihok ^{u3}	nā ^{u3} hā ^{u3} ina ^{u3} eihok ^{u3}	hā ^{u3} eita ^{u3} wūna ^{u3} hok ^{u3}
A man	lived alone.	He went to hunt.	He told her
hīnīni	ha ^{u3} ta ^{u3} nīna ^{u3} ēiti ³	ha ^{u3} na ^{u3} ya ^{u3}	teibā ^{u3} ta ^{u3} ka ^{u3} ha ^{u3} wunā ^{u3} ⁴
his wife,	when he was about to go to hunt:	"Mind!	do not look at him
ha ^{u3} tanitā ^{u3} seini ⁵	na ^{u3} nā ^{u3} teiti ⁶	hina ^{u3} hā ^{u3} teineiti ⁶	hiha ^{u3} wuxuwa ^{u3} ⁷
when he comes to you	a powerful one	with tangled hair	who is hard to satisfy about
a ^{u3} titei	hā ^{u3} nīnā ^{u3} ya ^{u3}	ha ^{u3} ta ^{u3} nītā ^{u3} sā ^{u3} ⁸	na ^{u3} teibā ^{u3} yeiθā ^{u3} neini
plates.	He will make a noise	when he will come	and do not look there
hītā ^{u3} seinihinā ^{u3} ku ^{u3}	hā ^{u3} nīnā ^{u3} ya ^{u3}	hota ^{u3} nītoutca ^{u3} na ^{u3} θi ⁹	ha ^{u3} na ^{u3} ya ^{u3}
where he comes.	He will make a noise;	he will shout;	mind!
teibā ^{u3} neia ^{u3} ha ^{u3} wunā ^{u3} ⁴	na ^{u3} nā ^{u3} teiti	hā ^{u3} bā ^{u3} teitcēti ¹⁰	hā ^{u3} yeiā ^{u3} ā ^{u3} ¹¹
do not look at him	the powerful one,	he might enter	your tent."
hā ^{u3} θa ^{u3} hoku ¹²	hīnīnin ¹³	ta ^{u3} tcā ^{u3} θeia ^{u3} ti ¹⁴	na ^{u3} nā ^{u3} tcā ^{u3} θicina ^{u3} eihoku ¹⁵
he said to her	his wife	when he went away.	And he went to hunt
tiēinihiθa ^{u3} ti ¹⁶	hīnīni	na ^{u3} nā ^{u3} na ^{u3} θa ^{u3} hoku	tina ^{u3} teiti ¹⁷
after he had told	his wife;	he left her	to hunt.
na ^{u3} hā ^{u3} nā ^{u3} eitā ^{u3} seiniθi ⁵	hīnīni	hina ^{u3} hā ^{u3} teineiniθi ¹⁸	
And then he came to	his wife,	he whose hair was tangled.	
na ^{u3} hā ^{u3} teita ^{u3} ka ^{u3} ha ^{u3} wa ^{u3} hoku ⁴		na ^{u3} nā ^{u3} tcā ^{u3} nīsā ^{u3} ya ^{u3} ka ^{u3} nei ¹⁹	
And she did not look at him.		And he went back	
ta ^{u3} teineia ^{u3} ha ^{u3} wa ^{u3} ti ⁴	hā ^{u3} tcā ^{u3} nīsā ^{u3} ya ^{u3} ka ^{u3} ti ¹⁹	hā ^{u3} tisā ^{u3} nīθi ²⁰	nuhu
when she did not look at him.	he went back to	where he had come from,	that
hina ^{u3} hā ^{u3} teinihīniθi ¹⁸	ta ^{u3} θa ^{u3} nīheiti	nuhu	tā ^{u3} bā ^{u3} ti ^{u3} tā ^{u3} seiti ⁵
one with the tangled hair,	he failed	that one	on first coming
nuu	a ^{u3} ha ^{u3} ka ^{u3} neineiθi ²¹	hā ^{u3} yawūtā ^{u3} seiθi ⁵	nītcēta ^{u3} ka ^{u3} ha ^{u3} wa ^{u3} hoku ⁴
that	demented one,	whenever he came to	her who did not look at him.
na ^{u3} yā ^{u3} neiniā ^{u3} wa ^{u3} nī ²²	hā ^{u3} ta ^{u3} nā ^{u3} hoku ²³	ha ^{u3} tcā ^{u3} ci	bei ^{u3} hā ^{u3} ā ^{u3} ¹¹
But the fourth time	she made a hole	by means of	an awl
ha ^{u3} xūti	nina ^{u3} nā ^{u3} ¹¹	ta ^{u3} hīnā ^{u3} tcā ^{u3} θeia ^{u3} nīθi ¹⁴	hī ^{u3} ihi ^{u3} bei ^{u3} hā ^{u3} ā ^{u3} ¹¹
at the left of the door	in the tent,	when he turned back,	with an awl,
ta ^{u3} hūhīθiwa ^{u3} ha ^{u3} wa ^{u3} ti ⁴ ²⁴		θihā ^{u3} nīθā ^{u3} nīθi ²⁵	hā ^{u3} hāku
as she looked through,		"Let me see him!"	she said.
hā ^{u3} nā ^{u3} eiwa ^{u3} ha ^{u3} wa ^{u3} ti ⁴	hīhīθi ^{u3} i	nuu	ā ^{u3} ta ^{u3} na ^{u3} tihīni
Then she looked out	through	that	hole
hīθi ^{u3} i	ha ^{u3} heite	hā ^{u3} θeihoku ¹²	nā ^{u3} nā ^{u3} sa ^{u3} ya ^{u3} kanī
through.	"Here!"	he said to her	as he turned back.
ta ^{u3} teiteia ^{u3} neiti ¹⁰	hā ^{u3} θeihoku	ta ^{u3} nīā ^{u3} cinā ^{u3} na ^{u3} ²⁶	nā ^{u3} teia ^{u3} xa ^{u3} wu ²⁷
When he came in	he said to her:	"I am hungry,	give me to eat,

hän ⁰ a ⁿ hoku ¹²	nuhu'	hīseini ²⁸	hänä ⁿ a ⁿ titei ²⁹	ha ⁿ einā ³⁰
he said to her	that	woman.	Then she gave him for a plate	a clay one.
hīha ⁿ wnā ⁿ isou'u ³¹	na ⁿ titei ⁿ ta ⁿ na ⁿ ³²	hänā ⁿ a ⁿ titei ²⁹		
"It is not the kind	I use for plates."	Then she gave him for a plate		
bäcīna ³⁰	hīha ⁿ wnā ⁿ isou'u	na ⁿ titei ⁿ ta ⁿ na ⁿ	hähän ^{ku}	
a wooden one.	"It is not the kind	I use for plates,"	he said.	
hänā ⁿ a ⁿ titei ²⁹	ka ⁿ ka ⁿ ha ⁿ wa ⁿ ti	ka ⁿ xu	hän ⁿ inā ⁿ eihiti	
Then she gave him for a plate	a war-bonnet.	Again	he said the same.	
hänā ⁿ a ⁿ titei ²⁹	hibixūta ⁿ nīni ³³	ta ⁿ na ⁿ nā ⁿ '	hän ⁰ a ⁿ hoku	
Then she gave him for a plate	her dress.	"Very nearly!"	he said to her.	
na ⁿ hänā ⁿ a ⁿ titei ²⁹	hiwā ⁿ nīna ³³	ta ⁿ na ⁿ nā ⁿ '	hän ⁰ a ⁿ hoku	
And then she gave him for a plate	her moccasins.	"Very nearly!"	he said to her.	
ka ⁿ xu	hänā ⁿ icibini ³⁴	ha ⁿ θi ⁰ einei ^{hi} ' ³⁵	nā ⁿ nā ⁿ '	hän ⁰ a ⁿ hoku
Again	then she lay down	flat on her back.	"That is it!"	he said to her.
na ⁿ ta ⁿ ha ⁿ ta ⁿ wa ⁿ nī ³⁷	hänā ⁿ ikā ⁿ θeinei ³⁸	wa ⁿ hän ⁿ isei ³⁹		
And when he had eaten	then he slit her open.	She was pregnant with twins,		
nīsa ⁿ u ³⁹	ha ⁿ na ⁿ 'ā ⁿ hiā ⁴⁰	nīsa ⁿ na ³⁹	hänā ⁿ ī'itā ⁿ na ⁿ ti ⁴¹	
both	were boys,	the twins.	Then he took them;	
tcā ⁿ xa ⁴²	nuu	ha ⁿ na ⁿ 'ā ⁿ hiā ⁴⁰	hänā ⁿ īwa ⁿ cieiwa ⁿ ti ⁴³	
one	that	boy	then he put in the water	
ha ⁿ xābeinā ⁴⁴	na ⁿ	tcā ⁿ xa ⁿ	a ⁿ hän ⁿ ī ⁰ eikū ⁰ ā ⁿ ⁴⁴	θā ⁿ ya ⁿ ka ⁿ xu'
in the spring,	and	one	he threw under	the right side of the door
nīna ⁿ nā ⁿ ⁴¹	hänā ⁿ na ⁿ θitcā ⁿ θia ⁿ ti ⁴⁵	tic ⁰ eikū ⁰ ā ⁿ ti ⁴⁶	teī ⁿ yanā ⁿ '	
at the tent.	Then he went away	after he had placed	the children.	
hän ⁿ inā ⁿ kei	nā ⁿ -hīnā ⁿ ni ⁴⁸	hän ⁿ einī ⁿ iā ⁴⁹	hīnīni	
He returned,	this man,	he called	his wife,	
hän ⁿ itcā ⁿ ti ⁰ ni	ta ⁿ nīcīā ⁿ ti ⁴⁹	hīnīni	na ⁿ	xa ⁿ xa ⁿ nōu ⁵⁰
she did not answer,	when he called her,	his wife.	And	straightway
hän ⁿ iā ⁿ ini ⁵¹	ta ⁿ nā ⁿ neinei ⁵²	ta ⁿ tcā ⁿ ti ⁰ einei ⁵³		
he knew	that she was dead	when she did not answer.		
hänā ⁿ tei ⁰ ina ⁿ ha ⁿ wa ⁿ ti ⁵³	ha ⁿ hā ⁿ eikā ⁿ θeinei ⁵⁴	neitei ⁿ hī ⁰ ā ⁿ na ⁿ ou ⁵⁵		
Then he went in to see.	She was slit open.	"I told you,"		
hän ⁰ a ⁿ hoku	hänā ⁿ ībiwa ⁿ huti ⁵⁶	hänā ⁿ na ⁿ θina ⁿ hit ⁱ		
he said to her.	Then he cried.	Then he went off.		

Notes

¹ Field Columbian Museum Publications, Anthropol. Series, v, 378, 1903. The informant spoke with elaborate slowness and distinct syllabification. To this are due the numerous nasalized vowels, which, as Dr. Michelson says, tend to disappear in rapid speech. The slow utterance of the present informant may have caused nasalization to be heard where it was not organic. Dr. Michelson nasalizes o and perhaps other vowels; the author noted only aⁿ and äⁿ, though aⁿ was sometimes confused with o. Arapaho long vowels were usually heard

and written as geminated or doubled, particularly from this informant. As the writer in studying other languages has, however, found this apperception to be largely an individual peculiarity, such double vowels have in this paper been represented by single letters with the macron, except long e and o, which are represented, as heard, by ei and ou. The tendency to double crest long vowels seems nevertheless actually to be fairly marked in Arapaho, although the slight importance of the trait at best, and the cumbersomeness of its appearance in print, probably make its orthographical neglect preferable.

² The ending -hok*, given by Dr. Michelson as a stem meaning "say," is common as a quotative. Text II, note 3.

³ nã-, f; ina^a-ei, hunt, go to hunt, probably containing -ei, causative; -hok*, "quotative"; ha^a-ta^a-ni, ha^a-ti, ha^a-, purposive future, as in the preceding text; -ti, for -t', he, intransitive.

⁴ tci-, negative, tci-bã-, negative imperative; ta^a-k-, nei, not determined; ta^a-, when; na^a-, nah^a- (also independent, perhaps regularly loosely proclitic rather than prefixed), and; hã^a-, probably related to hã^a-ix, hã^a-nã-, see note 29; a^a-ha-w, stem, to see; -hok*, "quotative"; -ti, -a^a-ti, ei-ti, 3rd pers.; -nã-, not clear, but evidently pronominal, -nã occurring quite regularly as the subjective and objective element of the 2nd pers. plural.

⁵ ha^a-tani, future; na^a-, and; hã^a-nã-, "then"; tã^a-bã-, just, only, first begin to; hã^a-yaw-, if the translation obtained is literal, would mean "whenever" (independent, hã^a-tax-, whenever, hã^a-you, what); itã^a-s, to come to; -ni, -niθi, -θi, modal-pronominal; -ti, see note 6.

⁶ These two words contain the 3rd pers. ending -(ei)-t', and are to all appearances verbs.

⁷ iha^a-wu-, with pronominal prefix, a frequent form of the negative in verbs.

⁸ Cf. note 5.

⁹ hota^a-ni- for ha^a-ta^a-ni-, cf. note 1; itou, stem.

¹⁰ tci-tei, enter; cf. tci-t, tciθ-i-, in, entering.

¹¹ These words all contain a locative suffix.

¹² hã^a-θa^a-hok*, he (A) said to him (B); hã^a-θei-hok*, he (B) said to him (A). Cf. Michelson, Bur. Am. Ethn., Ann. Rep., xxviii, 237, 1912. It appears that a similar distinction is made in other verbs in the transitive pronominal endings. The two contrasting forms are probably related to the two forms of the third person in Central Algonkin; but the writer is under the impression that, in Arapaho at least, the "suus-ejus" distinction has been far transcended, the two forms serving rather as a convenient and valuable means of expressing over considerable passages the ideas which in our legal documents are rendered by "the party of the first part" and "the party of the second part." If this view proves correct, the force of the paired Arapaho forms would be somewhat similar to the contrasting Yuki particles sa^a' and si', of which one indicates the continuance and the other a change of grammatical subject or agent in the sentences which they open.

¹³ Without the final -n in other occurrences in this text, as *ante*.

¹⁴ ta^a-, when; tciθ^a-ei-, tciθ^a-i-, off, away.

¹⁵ na^a-, and; tciθ^a-i-, away; ina^a-ei, go to hunt; -hoku, quotative.

¹⁶ tic-, ticini-, when, after, with implication of completed action; hi-, f; -θa^a-, cf. hã^a-θa^a-hoku, note 12; -ti, he.

¹⁷ t-, ti-, tih'-, ta^a-, tah^a-, when, after, to, because.

¹⁸ Compare the corresponding form in note 6.

¹⁹ na^a-, and; tciθ^a-, back; i-sã^a-, go, come.

²⁰ hã^a-t, hã^a-t-a^a-, where; i-sã^a-, go, come.

²¹ hahã^a-kã^a-, crazy.

²² yã-neini-awã-t', the fourth, animate, yã-neini-awa-na', inanimate. The ending -ni is evidently the same as is found on the cardinal numbers from 11 to 19, and on words denoting measures of time.

²³ tanã-s, pierce, make hole in. Cf. tã', tanã', tou-, tanou-, to stop, or by stopping; also the fourteenth word below in the text.

²⁴ ta^a-, when, as; a^a-ha-w, a^a-ha-b, see; hũhiθi-w- is evidently a form of the independent word hĩhiθi'-i or hĩθi'-i (as below), probably for hĩhiθi'-i.

²⁵ θi-, iθi-, let me.

²⁶ äsini-h, to anger; äsina-nã-t', anger; the same stem seems to be used to express the meanings of anger and hunger, which both imply stirring emotion; or has the similar sound of the English words led to confusion in translation? The ending -na^a is the regular intransitive of the 1st pers.

²⁷ *tei-*, positive or negative imperative; *a^axa^a-wu*, *axa-wu*, give to eat!

²⁸ Objective of *hisei*.

²⁹ *a^atitei*, plates, *ante*; *-h-ei*, causative; *hänä^a*, *hä^anä^a*, correlative with *hä^a-ix*, mentioned in the preceding text. The force of these two common prefixes is not clear. Informants left them untranslated or rendered them by "then." They appear to be relational to the discourse as a whole rather than syntactical or grammatical. For *hä^a-* alone see note 4.

³⁰ Compare Gros Ventre *ha^aä^aty^a*, lime, white earth; and *haäninin*, better *ha^aäninin*, the Gros Ventre name for themselves, translated, perhaps in false etymology, as "lime-men." The myth refers to a time when the Arapaho at least knew pottery. For the ending *-i-na^a* compare *bäcina^a*, a wooden one, just below, from *bäc^a*, wood.

³¹ *i-ha^awu-*, negative of verbs.

³² *a^atitei*, plates, as in note 29; *-ta-n*, *-ta-na*, to, for, of; either the initial *n*- or the final *-na^a* denotes the first person.

³³ *hi-*, her; *bixüt^a*, dress; *wa^aa*, *wa^aaha*, moccasin, plural *-na^a*.

³⁴ *iei-bi*, *isi-bi*, lie down.

³⁵ *-ihi^a*, *-ihi^a*, the commonest suffix of adverbs.

³⁶ Compare *nähä^a*, *nuhu^a*, this; *hinä^a*, that, visible; *nänä^a-ni-na^a*, I, it is I; *nänä^a-häxk^a*, he, it must be he.

³⁷ *na^a*, and; *ta^a-*, when; *ha^at-*, future intent, and *a^awa^a*, eat; or *h-a^ata^a-*, eat (cf. *ata-wu*, eat up for), and *-wa-*, *-bä*, cause.

³⁸ *i-kä^aöei-n*, cf. *ka^aäöei-n*, cut open belly (*ka^aa^a-b*, bite, *ka^ane-n*, open, *ka^au-s*, cut off); *-eit^a*, he (B)—him (A).

³⁹ *nis^a*, two (counting), *hä^a-nis-ei*, two, inanimate; *-na^a*, plural.

⁴⁰ *hanaxa^aaha*, young man; *-hi^a*, *-hä^a*, *-hähi*, diminutive; *-a^a*, for *-a^a*, *-ha^a*, plural. For: *hanaxa^aähiha^a*.

⁴¹ *ite-n*, take, catch.

⁴² Compare *teäseix*, one, in counting.

⁴³ *i-wa^aciei-w* for *wa^acie-w*, *wa^acie-b*, take into water.

⁴⁴ *i-öei-kü-ö* for *öei-ku-ö*, put in; *-ä^a*, he—him.

⁴⁵ *na^aöi^a*, *teä^aöi^a*, for *teäö-i*, away, usually a "prefix," here obviously the "stem," since it is followed directly by the pronominal ending.

⁴⁶ *tic*, or *tisi*, when, after, completed action.

⁴⁷ *teia^a*, child; *-na^a*, plural.

⁴⁸ For: *nähä^a* *hinen^a*.

⁴⁹ This transitive stem seemingly is used without the usual connective consonant. Compare the endings of the two occurrences of the stem: *-a^at^a* and *eit^a*, the A and B forms according to the table of pronominal endings, occur, here and elsewhere in the text, in subordinate verbs; *-ä^a*, as in note 44, and notes 8 and 16 of Text II, is found on independent verbs.

⁵⁰ Or *xanou*; also a prefix.

⁵¹ Transitive *ä^aina-n*. This form seems to be intransitive and without pronominal suffix.

⁵² *ta^a*—once means that, once when.

⁵³ *teiö-i*, in, entering, to enter; *a^aha-b*, *a^aha-w*, to see. Perhaps best: he entering saw, he enter-saw. This word illustrates excellently the difficulty in distinguishing in Arapaho between verb stems with adverbial prefixes and binary compound verbs, as discussed above in the first part of the section dealing with verbs.

⁵⁴ See note 38.

⁵⁵ The expected ending *-eöen^a*, I—you, is lacking; *n-ei-* seems to be the part of the word meaning I.

⁵⁶ *biwa^a-hu*, to cry.

PART III

NOTES ON GROS VENTRE

PHONETICS

The sounds of Gros Ventre have been discussed in connection with those of Arapaho proper. Certain sound correspondences between the two languages have been pointed out in Part I.

Vocalic changes, consonantal substitutions, increments, and reduplications or similar expansions, are frequent, but the laws by which they are governed are not often clear.

- wos, bear; waotä--n-os, black bear.
 hitäna(n)-i-bi, buffalo cow.
 nixa^t-ou-iöä, white-man woman.
 na^{ts}*, rabbit; na^k-ä^{ts}*, "white rabbit," jackrabbit; nawat-a^{ts}*, "left-hand rabbit," cottontail rabbit.
 na^{ts}-ou-hitäna*, white buffalo.
 na^k-ø-otei, "white belly," donkey; wanot*, some one's belly; na-na^{ty}-ix-ty^l, he is white.
 ha'a^{ty}^l, white clay, lime; ha'ä-n-inin, Gros Ventre; ha'ä-n-iöä, Gros Ventre woman.
 b^l-tei-byi, louse, "some one's louse"; bei-tei-byi, "red louse," flea; øei-tei-byi, "flat louse," bedbug; baxa'a-tei-byi, "thunder louse," butterfly.
 a^{wu}, down; a^{wu}-nihiⁱ, down along a stream; n-a^w^l-na^{ty}-inei, "lower-Assiniboines," Sioux.
 kaka-ya*, flat, it is flat; kaka-tyi, he is flat; kāk-ou-biø, "flat wood," cut lumber, planks.
 bāø-aniⁱ, "large gopher," prairie-dog; bāø-ä^{tsu}, "large mouse," rat; bās-ou, bāø-ei-(y)a*, bānāø-ei-(y)a*, large (inanimate), it is large, a large thing; bānāø-ei-tyi, he is large, a large one; bās-initä*, "large person," a giant; hābäty-initä* (hābä-ty^l-initä*^f), a large person.
 baxa-a*, red, inanimate; bei-x-ty^l, he is red, red (animate); bānā-ty^l, he is red; bāā^a bis, red wood; bax-ou, "red porcupine(^f)," badger; nix-bā-ä'ä-na*, I was red headed; bānābā-'tä-na*, I have red ears; bānā^b(ā^a)-a^{ts}ö-na*, I have red eyes.

COMPOSITION

Some body part stems when in composition are dissimilar to the independent stems of the same meaning; others are the same.

Distinct:

-ibā-, nose; be-ic^a, nose. Arapaho: -i-öä-, b-eic.

- øä-n-ibā-ty^l, "flat nose he is," pig
 ta-n-ibā-ts, "pierced nose they are," Nez Percé Indians
 bāā^s-öbā-na*, "large nose I am," I have a large nose

-ä'ä-, head; bi-t^a'an (or bit-a'^an?), head. Arapaho: ä'ei-; ha-kuhäⁿ, head; bei-θe'ä, hair.

bänäθ-ä'ä-na^a, I am large headed

käka-ä'ä-nin, "flat head men(?)", Flat-head Indians

-täxä-, belly; wa-n-ot^a, belly. Arapaho: wa-not.

hä^atyis-täxä-na^a, I am small-bellied

-a^atsö-, eye; be-söθ, eye. Arapaho: bä-cisä.

wanä^awa^aθ-a^atsö-na^a, I have ugly eyes

Identical:

ityi-, mouth; be-tyi', mouth. Arapaho: bä-ti.

wanä^aθ-ityi-na^a, I am ugly mouthed

-tän-, ear; wa-n-otan, ear. Arapaho: wa-natana'.

bänäbäθ-tän-(n)a^a, I have large ears

-a^atsötä-, tooth; bi-tsitⁱ, tooth. Arapaho: bei-tciθ.

ninänⁱ-a^atsötä-na^a, I have pretty teeth

-öθana-, neck; wa-θana, neck. Arapaho: bä-sona^a.

bänäs-öθana-ni-na^a, I have a large neck

-tinä, mammae; be-ten, breast. Arapaho: bä-θen-etcⁱ, breast-water, milk.

bänäbäs-tinä-na^a, I have large breasts

Several other nouns occur in two forms:

-okay-, house, in composition only; -yei, house, independent word with possessive pronoun; nīn^a, house, independent word without possessive. Arapaho: -akac or -akay, -i-yei, nīna^a.

wux-n-okay-än, "(?)-houses," the Minitari

wasöin-hiyei-hi-ts, "grass their houses," "they have grass houses," a Shoshonean tribe

-ä^awu-, water, in composition only; netsⁱ, water. Arapaho: -a^awu, netcⁱ.

bä^a-ä^aw^aha^aθä^a-netsⁱ, red rain

nana^ak-ä^aw^a netsⁱ, white water

tsök-ä^aw^a, clear water

hou-n-ä^aw^a, muddy water

waotä^a-n-ä^aw^a, black water

waotä^a-notsⁱ, "black water," coffee

nixa^at-ou-netsⁱ, "white man's water," whisky

bete(n)-nitsⁱ, "breast water," milk

beθⁱ-nitsⁱ, "wood-water," sap

VERBS

AFFIXES OF MODE AND TENSE

The tense and mode affixes observed are substantially the same as in Arapaho.

Prefixes

n-, nī-, na-, incomplete action, present; Arapaho: nī-
 nih¹-, nīnih¹-, incomplete action, past; Arapaho: nih¹-
 nih-ise-n-, completed action, past; perhaps: once continued action now
 completed; Arapaho: nih-isi-
 ha²ta-, ha²ta²ni-, future, probably of intent; Arapaho: ha²t-, ha²t-ī-,
 ha²ta²nī
 nih¹-a²ta²-, "was about to"; nih¹- and ha²ta²-
 ha²-ē-, interrogative, present; Arapaho: kih¹-, ka²-, ka²hei-, ka²hä-, ka²hu-
 ha²-ex-, interrogative, past
 ha²-a²ta²-, interrogative, future
 tsō-, tsu-, tsä-, tse-, negative; Arapaho: tel-, teih-
 ha²-(n), optative, "let me"; Arapaho: hä²-ti-, hä²-tih¹
 hax-, that, when, subordinating; Arapaho: ta²-, tah²-
 ihi-, if, past unreal supposition
 nā²ēei-, perhaps; Arapaho: na²xei-

A few etymological affixes have also been distinguished:

näye-x-tsō-, niyā-x-tsō-, try to; Arapaho: näye-
 tcä²-sō-, begin to; Arapaho: tcä²sis-
 na²wa-, nā²bi-, make a motion to; Arapaho: nawu-, näbi-

Suffixes

-etyi, reflexive; Arapaho: -eti, -uti
 -ēhi, -ōhu, agent; Arapaho: -ēhi, -ōhu
 -n-äxku, added to personal ending, conditional; Arapaho: -h-äxk², n-äxk²
 -ya², ending of many adjectives in the absolute or inanimate form; Arapaho:
 -a², -ya²

PRONOMINAL ENDINGS AND CONNECTIVES

The intransitive endings are:

	<i>Gros Ventre</i>	<i>Arapaho</i>
I	-na²	-na²
You	-n²n	-n¹
He	-ty¹	-t¹
We	-nin	-na²
You	-nä²	-nä²
They	-ts(¹)	-ēi

The intransitive imperative is expressed by -ts; äñity-i-ts, talk!
 This ending has not been observed in Arapaho.

The transitive conjugation is substantially the same as in Arapaho.

	<i>Gros Ventre</i>	<i>Arapaho</i>
I—you	-etin	-eθen ¹
I—him	-a ¹	-a ¹
I—you (pl.)	-etina ^a	-eθenä ^a
I—them	-ou	-ou
I—it	-awa ^a	-awa ^a
you—him	-ots ¹	-a ^a t ¹
he—me	-ein ^a	-eina ^a
he—you	-ein ¹	-ein ¹
he—him	-aty ¹	-a ^a t ¹
they—you	-ein ^a n ⁽¹⁾	-einanī
they—him	-ots ¹	-a ^a θi

The preceding consonant or connective also undergoes change much as in Arapaho.

Meaning	Verb	Me	You	Him	You	Them	It
see	a ^a ha		b	kw ²⁵	b	w	t
strike	ta ^a	b	b	w			
shoot	tei	by	by	by			bit ²⁶
kick	tāθa		n	n			
tell	n-i		t ²⁷	t ²⁷		t ²⁷	
kill	naha			,			

The transitive imperative is -in; Arapaho, -inⁱ, unⁱ.

tei-by-in	shoot him!
nihī ¹ -in	kill him!

The transitive endings occurring with the interrogative prefix ha^aex- are evidently the same as the Arapaho personal suffixes used in the negative formed by -i-ha^awu-.

	<i>Gros Ventre</i>	<i>Arapaho</i>
I—you	-etä	-eθ
I—him	-ä ^a	-a ^a
you—him, them	-ä ^a	-a ^a , -a ^a na ¹
he—me	-'	-e
he—him, them	-', -ä ^a	-ä
they—me	-ei	-ei
they—him, them	-', -ä ^a	-äna ^a

One of the two personal elements seems to be expressed, the other understood.

The negative conjugation appears to be based on the use of the prefix tsō- (and its phonetic modifications), corresponding to Arapaho tei-. The equivalent of the Arapaho negative in i-ha^awu- has not been observed.

ne-tsä-äsa^a, I am not swift
 nā-tsä-ätcesōu-hi, I am not small
 he-tsu-na^aha-b-et¹, I do not see you

²⁵ Unparalleled in Arapaho.

²⁶ As in Arapaho.

²⁷ Corresponds to Arapaho s.

NOUNS

The plural of nouns shows the same types as in Arapaho.

-n, -in, -an, corresponding to Arapaho -naⁿ, -i-naⁿ.

bear	wos(ö)	wosö'n
elk	(h)iwasö ⁿ	(h)iwasöhin
wildcat	beθa ⁿ tyä	beθa ⁿ tyän
crow	(h)ouu	(h)oun
fly	nöubä ⁿ	nöubän
feather	bii	biin
bone	hiθ ⁿ	hiθan
tent	nin ⁿ	ninan
stone	(h)axa 'änä ⁿ tyä ⁿ	(h)axa 'änä ⁿ tyän

-aⁿ, -haⁿ, as in Arapaho.

mouse	ä ⁿ tsu	ä ⁿ tsuhih ⁿ
antelope	na ⁿ sity	na ⁿ sitya ⁿ
rabbit	na ⁿ ts ⁿ	na ⁿ ts ⁿ 'ha ⁿ
gopher	(h)ani 'i	(h)ani 'iha ⁿ
muskrat	iθos	iθosa ⁿ
otter	nēi	nēih ⁿ
squirrel	θaθa ⁿ ya 'ei	θaθa ⁿ ya 'eiha ⁿ
cat, puss	wus	wusha ⁿ
donkey	na ⁿ k ⁿ θotei	na ⁿ k ⁿ θoteihiha ⁿ
bald eagle	na ⁿ k ⁿ tiyēhi	na ⁿ k ⁿ tiyēhi ⁿ
turtle	bä 'änou	bä 'änouha ⁿ
fish	na ⁿ w ⁿ	na ⁿ wuh ⁿ
butterfly	baxa 'a ⁿ -teibyi	baxa 'a ⁿ -teibyiha ⁿ 28
river	nitsä	nitsaha ⁿ

Lengthening of the final, often surd or inaudible, vowel to -ī, -ū, or a phonetic equivalent, as in Arapaho.

deer	bihi 'i	bihi 'ihi
beaver	(h)äbes	(h)äbesöi
skunk	θou	θoue
cattle	wä ⁿ kety ⁱ	wä ⁿ ketyī
mountain sheep	(h)ot ^(e)	(h)otēi
wooden house	bätyiθou	bätyiθou 'u
ear	wanatan	wanatanou
water	nets ⁱ , nots	notsä ⁿ
louse	b ⁱ teibyi	b ⁱ teiwuh ⁿ 28

Words for "domestic animal," or compounded with it, take -ibi, Arapaho -äbi.

dog	(h)ot ⁿ	(h)otibī
horse, "elk-dog"	hiwas 'hä ⁿ θ	hiwas 'hä ⁿ θebī
dragon-fly, "insect dog"	biθa ⁿ 'hä ⁿ θ	biθa ⁿ 'hä ⁿ θibi

A few words change final -s or -ts to -t.

tooth	bitsits	bitsit
horn	ninis	ninit
parfleche bag	houwanos	houwanot

28 Apparently different plurals on the same stem.

Animateness or inanimateness of nouns is indicated in the conjoined verb, adjective, or numeral; or, as they should collectively be called, the verb. The "animate" gender, however, includes many names of lifeless things. Such are: sun, moon, stars, thunder, wagon, mowing-machine, which travel; and snow, stone, tree, log, cedar, pine, pipe, and money, which do not move. Inanimate are the nouns for sky or clouds, lightning, rainbow, rain, water, river, spring, earth, iron, willow, sage, grass, mountain, gun, bow, arrow, and wind, several of which denote moving objects.

A locative is formed by a vocalic suffix, as at times in Arapaho.

earth	bīta 'āw"	bīta 'āwū
stone	(h)axa 'ānā'tyā"	(h)axa 'ānā'tyēi
parfleche bags	houwanot	houwanote
bed	(h)ā'w"	(h)ā'bā'

The types of possessive pronominal prefixes are those occurring in Arapaho. The third person frequently shows a vocalic suffix increment.

Word	Father	Mother	Son	Grandmother
vocative	nīōā"	na 'ā"	neihe'	nīp
my	nīōina"	neina"	eihe'	eip
your	iōina"	eina"	iha 'aha"	iniwaha
his	iniōina"	inan"		
our (incl.)	iōinan			
our (excl.)	āniōinan'n			
your	iōinanina"			

Word	Grandchild	Mother's brother	Hair	Mouth
vocative	nīsō	nīs'hā"		
my	nīsā	nīs'	nānīt"	netyi'
your	isā	ās'	ānīt"	etyi'
his	inisaha"	isa' "	inīt"	ityi'
somebody's			bīt"	betyi'

It is probable that an h-, which is fainter in Gros Ventre than in Arapaho, occurs before all the above words written as commencing with a vowel.

PRONOUNS

As in Arapaho, the so-called "pronoun" is a verbal sentence.

ni-nā	it is it, that is it
ni-nā-ni-na"	"I," literally, it is I
nih-nā-ni-na"	it was I
ha'ta"-nā-ni-na"	it will be I
ni-nā-ni-ts	"they," it is they

NUMERALS

<i>Counting</i>	<i>Cardinal</i>	<i>Ordinal</i>
1 <i>tyāθei</i>	āh-niθi-ty ¹ (an.)	ni-nit-awā ^a -ty ¹
2 <i>nīθ^a</i>	āh-niθ ^a (inan.)	ni-nisa-uwā ^a -ty ¹
	āh-nisi-ts (an.)	
	āh-niθ-ēi (inan.)	
3 <i>nāθ^a</i>	āh-nixi-ts (an.)	ni-nāsa-uwā ^a -ty ¹
	āh-nāθ-i (inan.)	
4 <i>yān¹</i>	āh-yāni-ts (an.)	ye-nāna-uwā ^a -ty ¹
	āh-yān-ei (inan.)	
5 <i>yātan¹</i>	āh-yātani-ts (an.) ²⁹	ye-nātana-uwā ^a -ty ¹
6 <i>neityā^atos</i>		ni-neitya ^a tos-awā ^a -ty ¹
7 <i>nīθā^atos</i>		
8 <i>nāθā^atos</i>		
9 <i>ānhābetā^atos</i>		
10 <i>betā^atos</i>	āh-betā ^a tsi-ts (an.)	bātā ^a tos-awā ^a -ty ¹

The above ordinals are animate. The inanimate forms lack the animate intransitive ending -ty¹. The form for "second" was obtained without the prefixed reduplication. "First" is *nītauwū*. The difference of consonant in the animate cardinals for "one" and "two" follows that in Arapaho.

Eleven to 19 are formed from 1 to 9 by -in, -ōin, Arapaho -ini: *tyāθēin*, *nīsōin*, *nāsōin*, *yānīn*, *yātanīn*, *neityā^atosōin*, *nīθā^atosōin*, *nāθā^atosōin*, *ānhābetā^atosōin* or *ānhānīθōu*. Here the *θ* of "two" and "three" reverts to its Arapaho form, *s*. Twenty to 100 are made by -ōu; Arapaho, -aⁿ, -aⁱ, -uⁱ: *nīθōu*, *nāθōu*, *yānōu*, *yātanou*, *neityā^ataθou*, *nīθā^ataθou*, *nāθā^ataθou*, *ānhābetā^ataθou*, *betā^ataθou*. Here *s* becomes *θ*. Twenty-two is *nīθōu nīsōin*, 39 *ānhāyānōu*, 200 *nīθ^a betā^ataθou*, 1000 *bās betā^ataθou*, "great hundred."

The only appearance of a "classifier" noted is -an-, corresponding to Arapaho -āⁿnā, a collective.

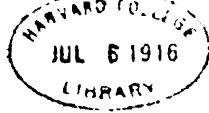
tya^aā^ayā^atei biθ yātan-an-ei, "heaps wood five," five piles of sticks

TEXT IV—TANGLED HAIR

<i>iniⁿ</i> A man	<i>hōuxnīθā^antēibā^aāⁿ</i> was living alone.	<i>āⁿtasnā^akaⁿī</i> In the morning	<i>hōu^axa^aatsō^u</i> he went hunting.
<i>hītō^uuānī</i> in the evening	<i>waⁿtyinānāⁿnīāⁿtyēⁱityⁱ</i> he returned.	<i>nōhuūteihāⁿntinān</i> "When I am away,	<i>nōhuū^θāⁿts</i> when comes
<i>iniⁱtāⁿ</i> a person,	<i>tsābⁱhēⁱ</i> do not	<i>tsōⁱtitsⁱnēⁱhin</i> invite him!"	<i>wāⁿtyiⁱtāⁿtyi</i> he told her
		<i>iniⁿnā^a</i> his wife.	<i>taⁿtāⁿ</i> "Even
<i>hānā^ayeisōⁿ</i> if he is about to	<i>tsōⁱtyāⁿts</i> enter,	<i>tsōⁱtyāⁿts</i> enter	<i>tsābⁱhiⁱisūn</i> do not let him."
			<i>aⁿhiⁱtaⁿwūⁱ</i> And indeed
<i>āⁿtⁱasō^jihāⁿtēⁱ</i> when he was away	<i>iⁿ-iniⁿ</i> this man.	<i>hōū^utaⁿwū</i> surely	<i>nōunentāⁿtēⁱihini</i> some one came.

²⁹ Or: *hāⁿ-yātani-ts*, animate; *hāⁿ-yātan-ei*, inanimate.

i'ninīn	naxkā ⁿ 'ka ⁿ	hitsō'wateāteini	ā ^h	no'hu	ini'tā ⁿ
His wife	just	would not say anything.	And	that	person
kā ⁿ 'ka ⁿ '	hōūxnā ⁿ ā ⁿ θā ⁿ 't ⁱ	hini'n'a ⁿ	ha ⁿ hitsō'watyātyin		
just	walked about.	His wife	would not say anything.		
hi'niθān	hōū'xtānī	i'θawū	tsō'tsōdjā ⁿ	ha ⁿ hu'ityinā-	
	He made as if to	in	enter,	but he did	
itsōwatyī-istsō'djā ⁿ	nah'noū'uθā'nts	hi'n-inin	hōū'xnā'teitanā		
not enter.	Returned	this man,	asked her:		
hā ⁿ āxtsō-nōunē'nitā ⁿ t	nī'watyitā ⁿ t	hini'n	wa'e'idyi'yā ⁿ ts		
"Has some one come!"	he said to her	his wife.	"Indeed he did!"		
niwatei'teity ⁱ	hih'a'ā ⁿ '	nī'wateīta ⁿ	hanā ⁿ 'dyā ⁿ	ta'tā ⁿ	
she said to him.	"Is that so?"	he said to her.	"Now	even	
hānā'yeisō	hiθawū'	tixi'i'	tsōtyā ⁿ ts ⁱ	tsōtyā ⁿ ts	tsā'bhe'isi'n
if he is about to	in	enter,	enter	do not let him!"	
wā ⁿ tyi'ta ⁿ tyi	ini'n	naxtā'θ ⁱ	hō'uxats'ou	nu'hu-inen	
he said to her	his wife.	And again	went hunting	that man.	
haxkouta'nixty ⁱ	houxtēi'	nōune'nitā ⁿ tē'hinin	nu'hu	ini'n	
When he was away long,	again	some one came	that	man.	
wā ⁿ tyinā'xni'i'	tayani'	ti'isō'	tsōtyānits	nu'hu	ini'tān
He was about to		but did not	enter,	that	person
nuhuū'	inōunenitā ⁿ tē'itan	hōū'xkā'kanitākō'utyin	hitidjē ⁿ na ⁿ		
who	came.	Then he flapped	the door.		
wa ⁿ tyinehi'i'tsa ⁿ nine'ixty ⁱ	tsōdjā ⁿ ts	wa ⁿ tyitā ⁿ tyi ⁱ	ā ^h 'ine'n		
She began to restrain herself no longer.	"Enter!"	she said to him.	And a man		
ōuxtsō'djānī	wa ⁿ tyinehi'i'	byitsiwā ⁿ na ⁿ	hō'hūsō ⁿ '		
it was who entered.	She began to	cook for him.	When she had		
byitsi'wa ⁿ na	wa ⁿ tyinehi'i'	haθa'wa ⁿ tyi ⁱ	ā ⁿ hiyō'u-wā ⁿ tyi'nits		
cooked,	she went to	give him food.	And he said:		
itsünānī'i'θōu	nā ⁿ tyi'tsōtā ⁿ	wa ⁿ tyi'teity ⁱ	wa ⁿ tyinehi'i'		
"That is not the kind	I use as plates,"	he said to her.	She went to		
ā ⁿ nātetyin	ā ⁿ tyi'tshā ⁿ 'tyi	ā ⁿ 'htā ⁿ θ	itsōnānī'θou	nā ⁿ tyitsō'tan	
change	his plate.	And again,	"That is not the kind	I use as plates,"	
wa ⁿ tyi'teity ⁱ	nī'watei-ka'sō	ānatyī'tsaha'a ⁿ	ā ^h	hōū'uxni'θ ⁿ	
he said to her.	Constantly she changed	his plates	and	the same	
nité'idji	wa ⁿ tyine'hi'i'	bihi	hatyi'tsaha ⁿ	i'nan	
he said.	Then she began	all	to use her plates,	every kind.	
wa ⁿ tyinā ⁿ 'nī'i'	ityhō'uwin	a ⁿ tyi'tshā ⁿ tyi	wa ⁿ tyinā ⁿ 'nī'i'		
Then she began	not to know	what to use as a plate.	Then she began		
notyā ⁿ ā ⁿ ta ⁿ	otnā ⁿ dji'tsahā ⁿ tyi	wa ⁿ tyine'hi'i'	nāt'a'hni'i'		
to think	what to use as a plate.	Then she went and	drew off		
āxni'θetyin	hiw'a'xa'	wa ⁿ tyinā ⁿ 'n	a ⁿ tyitsha ⁿ tyi	wū'uu	
one of	her moccasins.	And she went and	used it as a plate.	"Ha,	
tanā'n'nā ⁿ	wa ⁿ tyitē'ity ⁱ				
that is very near,"	he said to her.				



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MIWOK MOIETIES

BY

EDWARD WINSLOW GIFFORD

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INTRODUCTION

The Miwok Indians of the Sierra Nevada of California are divided by anthropologists into three dialectic groups, termed Northern or Amador, Central or Tuolumne, and Southern or Mariposa. These three groups occupy the western slope of the mountains from El Dorado County in the north to Madera County in the south.¹ Their social organization takes the form of totemic exogamic moieties with paternal descent.

To Dr. C. Hart Merriam and to Dr. S. A. Barrett belongs the credit of calling attention to the Miwok moieties.² The present contribution,

¹ For geographical information see C. Hart Merriam, *Distribution and Classification of the Mewan Stock of California*, *Am. Anthr.*, n. s., ix, 338-357, 1907; and S. A. Barrett, *The Geography and Dialects of the Miwok Indians*, *Univ. Calif. Publ. Am. Arch. Ethn.*, vi, 333-368, 1908.

² C. Hart Merriam, *Totemism in California*, *Am. Anthr.*, n. s., x, 558-562, 1908; S. A. Barrett, *Totemism Among the Miwok Indians*, *Journ. Am. Folk-Lore*, xvii, 237, 1908.

while treating of the moieties in a general way, deals especially with two subjects with which they are closely interlocked, viz., personal names and terms of relationship. The former are connected with the totemic features of the moieties, the latter with the exogamic features.

The writer has recently found an organization, bearing a resemblance to that of the Miwok, among the Shoshonean Mono on the western slope of the Sierra Nevada in Madera County, and among the Chukchansi, Gashowu, and Tachi, which are Yokuts tribes. The Chukchansi inhabit Madera County north of the San Joaquin River; the Gashowu inhabit Fresno County south of the San Joaquin River; and the Tachi inhabit the plains north of Tulare Lake. These discoveries, which will be treated in a forthcoming paper, indicate that social organization on a dual basis was common to a large part of south central California.³

The data here recorded refer, except where otherwise noted, to the Central Sierra Miwok, and were obtained during three visits to their territory in Tuolumne County. These visits were made in 1913, 1914, and 1915. Information was also obtained from people who spoke the Northern Sierra dialect and who were employed on ranches in the vicinity of Elk Grove, Sacramento County. These people had come down from their homes in the Sierra Nevada foothills of Amador County. A brief visit was also paid to the Southern Sierra Miwok of Madera County.

In the preparation of this paper I am indebted to Dr. A. L. Kroeber, who has unstintingly given me the benefit of his knowledge of Californian ethnology.

MOIETIES

As already related, the Central Sierra Miwok are divided into exogamic moieties with paternal descent, usually spoken of as *kikua* (water side) and *tunuka* (land, or dry, side). Frequently the former are referred to as "bullfrog people" (*lotasuna*) and the latter as "bluejay people" (*kosituna*). The presence of two exogamic divisions with animal nicknames has at least a superficial analogy to a case mentioned by Dr. W. H. R. Rivers as occurring on the island of Raga or Pentecost in the northern New Hebrides.⁴

³ For a preliminary notice see *Dichotomous Social Organization in South Central California*, Univ. Calif. Publ. Am. Arch. Ethn., xi, 291-296, 1916.

⁴ Totemism in Polynesia and Melanesia, Journ. Roy. Anthr. Inst., xxxix, 172, 1909.

With the Miwok the moiety has no subdivisions. At first glance the fact that 16 per cent of the Central Sierra Miwok are named after bears, and the remainder after numerous other animate and inanimate objects and phenomena, would seem to suggest a phratral system, with numerous totemic gentes, gone into decay. The Indians, nevertheless, positively deny the existence of smaller divisions. They in no way regard the people with bear names, for example, as forming a special group. Nothing in the information obtained points to a phratral system ever having been in operation.

Individuals from the Northern Sierra division of the Miwok were found to disagree as to the occurrence of the moiety system among their people. An informant from West Point in Calaveras County and one from Jackson in Amador County stated that the dual divisions were in force in those places. Two other informants, one thirty and the other about forty years of age, from Plymouth, in Amador County, knew nothing about the moieties.

EXOGAMY

The exogamic rules of the moieties were not rigidly adhered to even before the coming of the whites. Out of a series of four hundred and thirteen individuals, whose names were obtained, one hundred and eighty-four, or 45 per cent, belonged to the water moiety, and two hundred and twenty-nine, or 55 per cent, to the land moiety. The greater number of these four hundred and thirteen individuals were either of the generation of the oldest Indians of today or of the preceding generation. Had the exogamic rules been strictly enforced it would have meant that ten people out of every hundred went unmarried or else married late in life. The natural result of this preponderance of one moiety over the other would be the breaking down of strict exogamy in actual practice, especially in a case like the present, where the system lacks the rigidity of the Australian marriage-class system. Informants stated that strenuous efforts were never made to prevent improper marriages. The relatives merely objected and pointed out the impropriety of such marriages. Under the heading "Marriages" are listed the recorded Miwok marriages, of which actually 25 per cent are improper.

The figures in the last paragraph show the division into moieties of the Central Sierra Miwok as a whole, at least so far as the data go. A list of the inhabitants of only one village was obtained. This village

was located on Big Creek near Groveland. The total number of individuals listed is one hundred and two and includes people of all generations within the knowledge of the informant. Out of this total, 56 per cent belonged to the water moiety and 44 per cent to the land moiety. This is the reverse of the situation among the Central Sierra Miwok exclusive of the Big Creek people. A table will perhaps make the situation clearer.

	Percentage of water moiety	Percentage of land moiety
Central Sierra Miwok in general	45	55
Village at Big Creek	56	44
Central Sierra Miwok, except Big Creek people	41	59

Unfortunately no other village censuses have been taken, so that in comparing the Big Creek people with the remainder of the Central Sierra Miwok we are comparing with a very miscellaneous and scattered lot of individuals. Roughly stated, however, they may be said to be mainly Jamestown and Knights Ferry people. At Big Creek twelve people out of a hundred were ineligible for monogamic marriage within the village, if strict exogamy were enforced. In the region outside of Big Creek, however, eighteen people out of a hundred were ineligible.

TOTEMISM

That totemic symptoms of one sort or another are present in the Miwok organization cannot be denied; yet, on the other hand, it must be acknowledged that the classing of the Miwok with totemic peoples is based on a rather weak foundation. The claims for such classification rest on three well established facts.

First, all nature is divided between land and water, in a more or less arbitrary manner, to be sure, as shown by the classing of such animals as the coyote, deer, and quail on the "water" side.

Second, the exogamic moieties are identified respectively with land and water.

Third, an intimate connection exists between the land and water divisions of nature and the land and water moieties. This connection is through personal names, which usually have an implied reference to animate or inanimate natural objects or phenomena, although not infrequently to manufactured objects instead. The objects or phenomena referred to in personal names belong, as a rule, either to the water or to the land side of nature. The names are applied according

as the individual is of the water or of the land moiety. Hence, it may be said that each moiety is connected through the personal names of its members with a more or less definite group of objects and phenomena.

The ensuing very incomplete lists, the contents of which were spontaneous on the part of informants, give some idea of the dual classification of nature. The reason for placing on the "water" side certain creatures which are actually land animals is hard to understand. An informant explained two of the cases to me as follows: The quail is placed on the water side because a turtle once turned into a quail; while the coyote is placed on the water side because Coyote won a bet with the creator and the latter had to go to the sky and take a land-side name, while Coyote remained on earth and took a water-side name.

On the water side are coyote, deer, antelope, beaver, otter, quail, dove, kingbird, bluebird, turkey vulture, killdeer, jacksnipe, goose, crane, kingfisher, swan, land salamander, water snake, eel, whitefish, minnow, katydid, butterfly, clouds, and rainy weather.

On the land side are tree squirrel, dog, mountain lion, wildcat, raccoon, jay, hawk, condor, raven, California woodpecker, flicker, salmon-berry, "Indian potato," sky, and clear weather.

Another, though slender, bit of evidence in favor of totemism is a fragment of a myth recounting the origin of the moieties. It was obtained from a woman of the water moiety, Mrs. Sophie Thompson, formerly chieftainess at Big Creek, near Groveland. She stated that her father, Nomasu, told her the story. In this myth it is interesting to note that, although an animal of each side is concerned, it is the coyote, usually classified by the Miwok as a water animal, which actually gives birth to the four founders of the moieties. However, the part the coyote plays may perhaps be as much that of culture hero as of water totem. The myth, the scene of which is laid in Hetch-Hetchy Valley, runs as follows:

Coyote said to his wife, Bear, as he was about to cohabit with her: "We will have a boy and a girl." His wife gave birth to twins, a coyote-boy and a coyote-girl, who grew up.

Coyote-girl married a bear. Coyote himself dreamed and "made the first four people when he was dreaming. He dreamed how he was going to make two kinds and how he was going to call them." Coyote-girl and her husband told each other they would have four children, two girls and two boys. Coyote-girl gave birth to them and they were the first four people about whom Coyote dreamed.

Coyote named one of the male children Tunuka and one of the female children Kikua. The other male child he named Kikua and the other female Tunuka. Coyote thus made the moieties and gave people their first names.

The new couples, although brothers and sisters, married and had children. The gopher acted as messenger and told Tunuka (woman) to come and help Kikua (woman) give birth to her child. After his wife Kikua had given birth, Tunuka (man) went out and killed a turkey vulture so as to wrap his baby in the feathers. Next Tunuka (woman) had a baby and gopher went to Kikua (woman) and asked her to come and assist at the delivery. Then Kikua (the husband of Tunuka) went out and killed an eagle to wrap his baby in. He also killed a deer and tanned the hide to make a cradle-board of it for the baby.

Coyote-boy also married his sister's daughter Tunuka, the wife of Kikua.

The above myth is the only one obtained which points to a belief in actual descent from animals. When applied to people with bear names it looks very much like a myth of descent from the totem, or at least from the animal after which these people are named. Especially is this true if a genealogy shows bear names continuously on the male side of the family. Such was very nearly the case with the family of the informant's husband (see genealogy III). With one exception, all possessed bear names, at least during the four generations shown in the genealogy just mentioned. When asked if her husband believed his paternal ancestors to be descended from a bear, Mrs. Thompson replied in the affirmative; but the bear she referred to was Coyote-girl's husband, who, according to the myth, was the paternal ancestor of all the Miwok regardless of moiety or personal name, and not merely the paternal ancestor of the Miwok with bear names. Negative answers were received from all other informants when similar questions were propounded to them. They were usually amused at the idea of one of their ancestors being a bear, the sun, a dance-pole, or some other object. In short, the Central Sierra Miwok as a whole do not believe that they are descended from animals. They do believe, however, that they succeeded the animals on earth, which is the belief common to the typical central Californian stocks. This belief, that before the coming of the Indians animals possessed the world, is very different from the idea of descent from the totem.

Informants stated that in former days it was customary for people to "show respect" to the bear, the eagle, and the falcon after any of these had been killed. This was done by laying the body of the slain creature on a blanket and having a little feast in honor of it when it was brought to the hunter's home. So far as I could ascertain, this was not a ceremony connected with moieties or with totemism. It was no different in import from the offerings made by the Miwok when

a condor was killed or when the young of a certain hawk were taken from the nest.⁵ This type of ceremony was common to a large part of California. The purpose was to appease the animal or its spirit. The ceremony was based on the belief that the animals possessed dangerous supernatural power. Obviously the three cases in question are no different in motive from the above, or from the practices of other stocks, of which a notable example is the Maidu treatment of bears.⁶

The supernatural powers obtained by shamans from animals were not received, except by coincidence, from the animal after which the shaman was named. A man of the water moiety might become a bear shaman just as readily as a man of the land moiety, even though bears and bear names are associated only with the latter moiety. Apparently a man's moiety and his personal name had no influence on his acquisition of supernatural power. The animal he was named after did not become his familiar or guardian spirit, except, as I have said, by coincidence.

CEREMONIES

The participation of the moieties as such in games and ceremonies was unimportant. Out of forty-four known ceremonies, the moieties took part as such in only four—the funeral, the mourning ceremony, the girl's puberty ceremony, and a dance known as the *ahana*. At least at Big Creek the moieties had reciprocal funerary functions, it being the duty of one moiety to care for the dead of the other. In the washing of the people which terminated the mourning ceremony washers of the water moiety tended one basket and washed people of the land moiety, while washers of the land moiety tended another basket and washed people of the water moiety. This custom, together with that of the moieties taking sides in games, obtained regularly at Big Creek, but not to such an extent elsewhere. This perhaps points to Big Creek as a place in which the moiety system was more firmly established.

In the girl's puberty ceremony it was customary for some girl, for whom the rites had previously been performed, to exchange dresses with the initiate. In all cases the two girls belonged to opposite moieties; if the initiate was of the water moiety, the girl who exchanged dresses with her must be of the land moiety. In the *ahana* dance the

⁵ See the meaning of *Teuke* in the list of personal names, p. 157.

⁶ Roland B. Dixon, *The Northern Maidu*, *Bull. Am. Mus. Nat. Hist.*, xvii, 194, 1905.

spectators, who made gifts to the dancers, were always of the opposite moiety but of the same sex as the dancers to whom they gave presents.

Among the Southern Sierra Miwok of Madera County dancers indicate their moiety by means of paint, especially on the face. The land moiety is indicated by stripes, usually horizontal; the water moiety by spots. The latter are said to represent the spots of fawns, which are water moiety animals. Informants did not know what the land moiety stripes represented.

PERSONAL NAMES

A child was named shortly after birth, preferably by a grandfather, but not infrequently by any one of the near relatives. The name received at that time was kept throughout life. Names of men and women did not differ. Occasionally a person received a nickname later in life.

The literal meanings or derivations, in part at least, as well as the connotations, of one hundred and forty-four personal names were obtained. Thirty-four of these names prove to be nouns or derivatives of nouns, and one hundred and two verbs or derivatives of verbs. Of the remaining eight names, three are adverbial, while five may be either nouns or verbs. It is likely that a similar proportion will be found throughout the remaining two hundred and eighty-seven names, of which record was made, when the literal meanings are worked out. It is interesting to find that in the use of both nouns and verbs Yokuts personal names, as obtained by Dr. A. L. Kroeber, agree with the Miwok.⁷

To a strange Indian, not acquainted with the individual whose name is mentioned, verb names have only their literal meaning. To the friends and acquaintances of the individual, however, the name has more than its literal meaning. It has an implied meaning, which usually brings in a reference to an animate or inanimate object. For example, the personal name Wüksü is a form of the verb meaning "to go." Yet to the friends and relatives of the man his name meant "Sun going down." Another interesting case is found in the personal names Hausü and Hautcu, both derived from hausus, to yawn, or to gape. The former is a land moiety name and a bear is implied; the latter is a water moiety name and a salmon is implied. An extreme case, but one which throws light on the mental attitude of the

⁷ Yokuts Names, *Journ. Am. Folk-Lore*, xix, 142-143, 1906.

name-giver, is that of the name Kuyunu. This name, according to the informant, had the connotation, "Dog wagging its tail." Kuyunu contains the same root as kuyage, to whistle. Apparently the name-giver thought of the whistling of a man to a dog as the cause of the dog wagging its tail, and, instead of naming the child after the action of the dog, named it after the cause of the dog's action; namely, whistling. Without knowledge of the individual, a Miwok, on hearing any of the above names, would be unable to decide as to the person's moiety or as to the animal or object implied. In the seventy bear names obtained, the word for bear is actually used in only one case.

In other words, among the Miwok there is absolutely nothing in the literal meanings of over 70 per cent of the personal names even to suggest totemism. It is only in the implied meanings that the totemic element appears. In this respect there is a striking resemblance to the Mohave custom of calling women by names which have only an implied and perhaps esoteric reference to natural objects or phenomena, the coyote, for instance.⁸

A close parallel to Miwok names is found in Hopi personal names, as set forth in the Rev. H. R. Voth's paper on "Hopi Proper Names."⁹ The names as a rule are considerably longer than the average Miwok name, because they are usually made up of two or more elements, in many cases a noun and a verb. Pure verb names among the Hopi are scarce, but, when they do occur, they do not differ from Miwok verb names in their application. For example, consider the name Una, which means "remember"; in this there is nothing to indicate the animal or object for which the person was named. Yet the coyote is implied, and the name "refers to the fact that a coyote is said to remember some food that he has buried somewhere and that he then gets." As stated above, each Miwok name has an implied or actual reference to an object associated with the moiety to which the possessor of the name belongs. Each Hopi name, however, does not refer to the clan totem of the possessor, except coincidentally, but does refer to the clan totem of the name-giver. The most striking resemblance between the Miwok and the Hopi systems of naming lies in the fact that in each system names identical in form, when applied to different individuals, may connote entirely different objects.

Half-breeds born of Miwok mothers and white fathers are always considered as belonging to the moiety of which the mother is not a

⁸ A. L. Kroeber, Preliminary Sketch of the Mohave Indians, *Am. Anthr.*, n. s., iv, 278, 1902.

⁹ Field Col. Mus. Anthr., vi, 61-113, 1905.

member. For example, if the mother is of the land moiety, the half-breed child will be of the water moiety and his or her name will refer to an animal or object identified with the water side of nature.

The matter of naming foreigners who take up their residence with the Miwok proceeds after a somewhat similar fashion. It is particularly well exemplified by a number of Yokuts and Costanoan men who lived with the Miwok and married Miwok women. As a rule these men were placed in the moiety to which their wives did not belong. The same practice is shown in the marriage of Yottoko, a negro, to Ukunulumaiye, a Miwok woman of the land moiety. Yottoko was given a water moiety name. The above custom is just the reverse of the Winnebago practice, in which foreigners who marry Winnebago women are given a name from the wife's clan.¹⁰ Descent with the Winnebago is paternal as with the Miwok, hence the children of such marriages belong to the mother's clan, not directly through the mother, however, but through the father.

The ensuing list gives the names for which complete or partial derivations have been worked out. The sex and moiety of each individual is indicated as follows: (m.) for male, (f.) for female, W. for water moiety, L. for land moiety. The italicized words in this list indicate the animals or other objects to which the personal names refer. It is to be noted that the connotation of a name occasionally brings to light an interesting old custom, for example, in the case of the name Teuke (see p. 157). Lack of familiarity with the language prevents a fuller linguistic analysis of the names.

Akaino. L. (m.) *Bear* holding its head up. Akaiye, to hold one's head up.

Akulu. L. (m.) Looking at the *sun*. Akule, to look up.

Apanta. W. (m.) *Salamander* in the water. Apanta, salamander.

Atce. W. (f.) Cutting and drying *salmon*. Ate, to split off.

Awanata. W. (m.) *Turtle*.

Elki. L. (m.) *Bear* hanging intestines of people on top of rocks or bushes.

Elkini, to hang on top of or over.

Eñeto. L. (m.) *Bear's* manner of walking. Eña, bent or crooked. In this case reference is made to the bear bending its foot when walking.

Epeta. L. (f.) *Lizard* lying on top of rock. Epetiteü, to lie on the belly.

Etu. L. (m.) *Sun* rising from the hills. Etu, sun; etumu, to get warm in the sun, that is, to sun one's self; etümü, to ascend a hill. According to a Big Creek informant, etu is the term for sun at that place. Cf. watu, sun, in Southern Sierra dialect. Among the Central Sierra Miwok, other than Big Creek people, hiema is the term for sun.

Etumu. L. (m.) *Bear* warming itself in the sun. Etumu, to sun one's self.

¹⁰ Paul Radin, *The Clan Organization of the Winnebago*, a Preliminary Paper, *Am. Anthr.*, n. s., XII, 212-213, 1910.

- Etumüye. L. (f.) *Bear* climbing a hill. Etumü, to ascend a hill.
- Hatawa. L. (m.) *Bear* breaking the bones of people or animals. Hate, foot; hate, to press with the foot; atwa, to split.
- Hateya. L. (f.) *Bear* making track in the dust. Hate, foot; hate, to press with the foot.
- Hausü. L. (m.) *Bear* yawning as it awakes. Hausus, to yawn, to gape.
- Hautcu. W. (m.) *Salmon* gaping when out of water. Hausus, to yawn, to gape.
- He'eluye. L. (f.) *Bow, arrows, and quiver* placed against tree while warrior rests. Seeluteo, to lay on side.
- Helaku. L. (f.) *Sunny day* without clouds. Helaku, sunny day.
- Helki. W. (m.) *Jacksnipe* (?) digging into ground with bill. Hele, to touch. The Miwok name for the bird alluded to its kuiatawila; it is said to come only in the winter.
- Helkimu. W. (m.) Hitting bushes with *seed* beater. Hele, to touch.
- Heltu. L. (m.) *Bear* barely touching people as it reaches for them. Helat, to reach for and barely touch.
- Hesutu. L. (m.) Lifting a *yellow-jackets'* nest out of the ground. Hesa, yellow-jackets' nest; hesute, to take out yellow-jackets' nest.
- Hesutuye. L. (f.) Getting *yellow-jackets'* nest from the ground. Hesa, yellow-jackets' nest; hesute, to take out yellow-jackets' nest.
- Heteltci. L. (f.) Leaning against *pota* ceremony pole. Helitcu, to lean against.
- Hisokuye. L. (f.) Hair growing on *bear*. Hisoku, body hair.
- Hopoto. W. (m.) *Frog* eggs hatching in water. Hopoto, round.
- Hotutu. W. (m.) Round *rocks* hurting the feet, when one is walking. Hoto-wun, to walk on round rocks; hotolum, to roll.
- Howotmila. L. (m.) Running hand down (encircling) branch of a certain kind of shrub to get off the *seeds* for beads. Howotu, beads.
- Hunipte. L. (m.) Looking "high-toned" when getting *seed*. Hunepu, to look proud.
- Hupaiye. W. (f.) Making boiled "wild cabbage" into a ball for lunch when cooking acorns. Hupaiye, to squeeze.
- Huyana. W. (m.) *Rain* falling.
- Kalmanu. W. (m.) *Lightning* striking tree. Kala, lightning striking.
- Katuye. W. (m.) Damming *water* in pool. Kata, to close, to shut.
- Kilikila. L. (m.) Small *hawk* (kilikila) calling, making a cry which resembles name.
- Koho. L. (m.) Limping. Cojo, Spanish for lame.
- Kolenya. W. (f.) *Fish* coughing. Kole, to cough.
- Kolotomu. W. (f.) Getting *oak-leaf gall-nuts*. Kolotu, a spiny red oak-leaf gall-nut.
- Kosumi. W. (m.) Going fishing with a spear for *salmon*. Kose, to throw at; kosumu, salmon.
- Kukse. W. (m.) *Valley quail* starting to fly from ground. Kukse, to be frightened.
- Kusetu. W. (f.) "Wild potato" sprouting. Kusetu, to bloom.
- Kusetu. L. (m.) "Wild potato" growing out of ground. Kusetu, to bloom.
- Kusetuye. W. (f.) "Wild potato" sprouting. Kusetu, to bloom.
- Kutattca. L. (m.) *Bear* scattering intestines of a person as it eats him. Kutatenani, to throw away something not wanted.
- Kutume. L. (m.) Unburned ends of *wood* after fire dies out.
- Kutcyak. L. (m.) *Bear* with good hair. Kutei, good.

- Kututcanati. L. (f.) *Bear* eating people. This name is undoubtedly of the same derivation as Kutattca.
- Kuyunu. L. (m.) *Dog* wagging its tail. Probably from kuyage, to whistle, in which case the meaning is entirely a matter of implication. The reason for such a meaning lay in the mind of the name-giver, who connected the wagging of a dog's tail with the whistling of a person to the dog.
- Labakse. W. (m.) Getting *elderberry* wood. Lapa, elderberry.
- Lilepu. L. (m.) *Bear* going over a man hiding between rocks. Lile, up, probably used here with the idea of over, or on top of.
- Liñugse. L. (m.) *Tule* growing in water. Liña, tule.
- Lipteu. W. (m.) Dropping of eggs of female *salmon* when it is lifted up. Lipisa, to drop.
- Liptuye. L. (f.) Getting *pine-nuts* from cones which have dropped from the tree to the ground. Lipisa, to drop.
- Litaña. W. (m.) *Hummingbird* darting down after having gone straight up. Litañü, to dart down.
- Liwanu. L. (m.) *Bear* growling. Liwani, to talk; liwa, to make noise.
- Lumai. W. (m.) Humming of *hummingbird's* wings when it is flying fast. Lumana, to go by with a noise.
- Lutaiyet. W. (f.) *Fresh-water snail* (*Physa*).
- Luyu. W. (m.) *Dove* shaking head sideways. Luyani, to shake head sideways.
- Luyunu. L. (m.) *Bear* taking off leg or arm of person when eating him. Luyani, to shake head sideways.
- Lütemü. W. (m.) *Salmon* going fast up riffle. Lutsu, to ascend.
- Maiyeño. L. (f.) *Chieftainess*.
- Mateumpaiye. L. (f.) Eating *farewell-to-spring* seed raw. Mateu, farewell-to-spring (*Godetia williamsi*).
- Memtba. W. (m.) Tasting *farewell-to-spring* seed after it has been mashed with pestle and while still in mortar. Memttu, to taste.
- Mituna. W. (m.) Wrapping a *salmon* with willow stems and leaves after catching it. Mituye, to roll up.
- Moemu. L. (m.) *Bears* sitting down looking at each other. Mo'ani, to meet; moeye, to join.
- Molestu. W. (m.) Refers to the stone shaped like a *deer's* foot, which brings good luck in deer-hunting to its owner. Mole, a magic stone.
- Mona. W. (m.) Getting *jimson weed* seed. Monoyu, jimson weed; monui, Yokuts for jimson weed.
- Muliya. L. (m.) Hitting *farewell-to-spring* seed with stick when it is on bush. Mule, to beat or strike.
- Mulya. L. (m.) Knocking *acorns* off tree with a long stick. Mule, to beat or strike.
- Müle. W. (m.) *Hawk* seizing quail on ground. Mule, to strike.
- Notaku. L. (m.) Growling of *bear* as some one passes. Notaku, to growl.
- Notcictu. W. (m.) *Coyote*, snarling over piece of meat under its foot. Notcu, to cry.
- Notcuuku. L. (f.) Any kind of *animal* calling. Notcu, to cry.
- Omsa. L. (m.) Missing things when shooting with *arrows*. Omsa, to miss with arrows. Another informant gave this man's name as meaning, "Missing deer when shooting at them with arrows."
- Otu. W. (m.) Collecting *sea shells* in a basket. Ote, to put in a basket.
- Oya. W. (m.) Naming or speaking of the kuiatawila bird (*jacksnipe?*). Oya, to name.

- Pati. W. (m.) Twisting willows for carrying *fish*. Patiwe, to break by twisting.
- Patiwö. W. (m.) Taking bones from slain *deer*. Patiwe, to break by twisting.
- Pikateö. L. (f.) Sifting *acorn* flour on flat basket by shaking. Pika, to sift.
- Pilekuye. W. (f.) *Shell nose-stick* staying in the ocean. Pileku, shell nose-stick.
- Polaiyu. W. (m.) *Lake*. Polaiyu, lake, valley, or ocean.
- Polneye. W. (f.) *Dove* decoying a person by feigning injury. Polangas, to fall.
- Pootci. W. (f.) Cutting *salmon's* belly. Putu, to cut open the belly.
- Posala. L. (f.) Pounding *farewell-to-spring* seed. Posa, to burst.
- Pusubi. W. (m.) *Fog* blowing up and covering everything. Puselum, to blow.
- Pususü. L. (m.) Calling a *dog*. Puus, Yokuts for dog.
- Putä. W. (m.) Cutting open a *salmon*. Putu, to cut open the belly.
- Putbana. W. (f.) Catching small *fish* with basket. Putbako, to scoop up.
- Putceyu. W. (f.) Evil smell of *deer's* large intestine. Puseyu, to stink.
- Putkuse. L. (f.) *Acorn* soup boiling. Putkuse, to bubble.
- Sakati. L. (m.) *Hawk* (kilikila) catching a lizard. Sakati, a species of lizard.
- Sapata. L. (m.) *Bear* hugging tree. Sapatu, to hug.
- Sapata. L. (f.) *Bear* dancing with forefeet around tree. Sapatu, to hug.
- Sawa. W. (m.) *Rock* on edge of river. Sawa, rock.
- Septuye. L. (f.) Taking something, that is burning, from the *fire*. Sipe, to pull out.
- Sewati. L. (f.) Curving of *bear's* claws. Sewati, curved.
- Sibeta. W. (m.) Pulling white *sucker fish* from under flat rock. Sipe, to pull out.
- Simutuye. L. (f.) Pinning together *tree squirrel's* abdomen with stick after gutting. Simute, to pin together.
- Sipatu. L. (m.) Softening *fox's* tail after skinning, by repeatedly shoving stick into it. Sipe, to pull out.
- Sipinyawo. W. (m.) Breaking *deer's* bone for marrow. Sipe, to pull out.
- Sukumi. L. (m.) *Great horned owl*.
- Suletu. L. (m.) *California jay* flying out of tree. Sulete, to fly about.
- Suletuye. L. (f.) *Falcon* flying from rock. Sulete, to fly about.
- Sumteiwe. W. (m.) Plenty of *whiskers*. Sumtecelu, facial hair.
- Sumteiwe. L. (f.) Fuzz on *sugar pine* cone when it is young. Evidently this name and the preceding are both derived from a common root, which probably refers alike to fuzz and hair.
- Sumteupti. W. (m.) A name having reference to the person's *whiskers*. Sumtecelu, facial hair.
- Supatce. W. (f.) Mashing *seed* with pestle. Supa, to mash.
- Taipa. W. (m.) *Valley quail* spreading wings as it alights. Tapa, to spread wings.
- Tamulkuyo. W. (f.) From the north. Tamalin, north. Undoubtedly an animate or inanimate object was originally implied. Compare with Teumetoki, *dove* coming from the south.
- Tetmö. L. (m.) *Dog* picking up scraps thrown out. Tetöm, to pick up.
- Tiponya. L. (m.) *Great horned owl* sticking head under body and poking egg when it is hatching. Tipe, to poke.
- Tiwatuyak. W. (f.) Trading and buying *beads*. Tiwako, to trade.
- Tiwitita. W. (m.) *Killdeer* running on ground and calling. Tewititi, killdeer.
- Tolkatcu. L. (f.) Small ears of the *bear*. Tolko, ear in Southern Sierra dialect.
- Totokono. W. (m.) *Sandhill crane*.
- Tuiwü. L. (m.) *California jay* hopping on ground. Tuiyangum, to jump.

- Tukeye. L. (f.) *Pine cones dropping and making dust.* Tukini, to throw endwise.
- Tukuli. W. (m.) *Caterpillar traveling head first down tree in summer.* Tukini, to throw endwise.
- Tumma. L. (m.) *Beating drum.* Tuma, drum.
- Tupi. W. (m.) *Throwing salmon on to bank.* Tupi, to pull up or out.
- Tutce. W. (m.) *Small frog jumping.* Tutneni, to squat.
- Tceweksu. L. (m.) *Tree squirrel eating green pine cones.* Teiwam, to chew.
- Teintiye. L. (f.) *Pressing or pounding buckeye nuts.* Teiniwa, to squeeze.
- Teinwe. W. (m.) *Squeezing intestines out of minnows.* Teiniwa, to squeeze.
- Tcitepu. W. (m.) *Shining of abalone shell.* Tcitepu, to shine.
- Teititi. L. (m.) *Green like katydid.* Teitaku, green.
- Tcumetokti. W. (m.) *Dove coming from the south.* Tcumetc, south.
- Uhubita. W. (m.) *Drinking water in the river.* Uhu, to drink, in Southern and Northern Sierra dialects.
- Uhubitu. W. (m.) *Ill-smelling stagnant water.* Uhu, to drink, in Southern and Northern Sierra dialects.
- Ukulnuye. L. (f.) *Bear taking young into den.* Uku, to enter.
- Ukunulumaiye. L. (f.) *Bear going into den.* Uku, to enter; emaiye, to visit.
- Utatci. L. (f.) *Bear scratching itself.* Utas, to scratch.
- Uzumati. W. (m.) *Grizzly bear.* A nickname applied on account of a disagreeable disposition.
- Wauna. W. (m.) *Snow geese calling when flying.* Woani, to bark; wou, to crow, to whine.
- Wialu. W. (m.) *Dove going away.* Wialum, to leave.
- Wootci. L. (m.) *Coyote barking.* Woani, to bark; wou, to whine, to crow.
- Woto. L. (m.) *Coyote sitting on rock barking and moving tail.* Woani, to bark; wou, to whine, to crow.
- Wunuti. W. (m.) *Hunting-man.* Wuntu, to hunt.
- Wüksü. L. (m.) *Sun going down.* Wuksu, to go.
- Yotimö. L. (m.) *Yellow-jacket carrying pieces of meat from house to nest.* Yoote, to carry.
- Yotimö. L. (m.) *Yellow-jacket carrying pieces of meat from house to nest.* Yoote, to carry. This man is the son of the above.
- Yottoko. W. (m.) *Black mud at edge of water.* Yottoko, dirty; yotok, earth or dirt in Plains Miwok. The individual was a negro.
- Yutkiye. L. (f.) *Chicken hawk lifting ground squirrel off of the ground.* Yütki, to hang.
- Yuttciso. L. (f.) *Lice thick on chicken hawk.* Yutuk, to stick on.
- Yutne. W. (m.) *Falcon making nest damp by defecating on it.* Yutuk, to stick on.
- Yutu. W. (m.) *Coyote making feint to seize bird.* Yutme, to claw.

The list which follows gives personal names as rendered into English by the Indians, but the exact denotations of which are unknown to the writer:

- A'a'me. W. (f.) *Dove cooing to young.*
- Akunatala. W. (m.) *Retiring to attend to natural functions.*
- Almase. W. (m.).
- Amayeta. L. (m.) *Big manzanita berries.*

- Anawuye. L. (m.) Stretching *bear's* hide to dry.
 Ape. W. (m.) Eating *acorn* mush with the fingers.
 Bakno. L. (m.) Missing people with *arrows*.
 Bosaiya. L. (f.) White down on head of young *eagle*.
 Cūsua. L. (m.) *Hawk* (kilikila) catching small birds.
 Elsu. W. (m.) *Falcon* circling high in air.
 Esege. L. (f.) *Bear* showing teeth when cross.
 Eskeye. L. (m.) *Farwell-to-spring* seed cracked open on bush.
 Ewentcu. W. (m.) *Deer* eating brush.
 Hahiyo. W. (m.) *Salmon* keeping mouth open when in shallow water.
 Haikiwisu. W. (m.) *Salmon* opening and closing mouth after being taken from river.
 Haiyepugu. L. (m.) *Bear* becoming angry suddenly.
 Hatcaiya. W. (f.) Black clouds in streaks.
 Hehemuye. L. (f.) *Bear* out of breath from running.
 Hiteta. W. (m.).
 Hoho. L. (m.) *Bear* growling.
 Hoiyitcalu. L. (m.) *Bear* becoming angry.
 Hokoiyu. W. (m.) *Falcon* hiding extra food.
 Hotamuye. W. (f.) Man on rockpile watching for *deer*.
 Hotcakme. W. (m.) *Spearing salmon*.
 Huata. W. (f.) Carrying *seeds* in burden basket.
 Huatama. L. (f.) *Mashing seeds* in mortar.
 Hulutuye. W. (f.) *Abalone* shell on necklace when dancing.
 Hulwema. L. (f.) Dead grizzly *bear*, killed by hunter.
 Hunui. W. (m.) *Salmon* fat.
 Huslu. L. (m.) *Bear* having lots of hair.
 Hustemeyak. W. (m.) Putting *fresh-water snails* (*Physa*) in bags.
 Hutamsi. W. (f.) *Fish* getting together in a bunch.
 Hute. L. (m.) *Stars* appearing which form handle of the Dipper.
 Hutcumi. L. (m.) *Bear* eating people.
 Huyube. W. (m.) *White oak* log lying on ground.
 Hümüta. L. (f.) Gathering Indian *tobacco* (hutia) in sifting basket.
 Ilokuk. L. (f.) Softness of leaves of "*wild potato*" when cooking.
 Iskemu. W. (m.) *Water* running gently when creek dries.
 Istu. L. (m.) *Sugar pine* sugar.
 Itcimuye. L. (f.) *Magpie* eating grasshopperr.
 Kaliska. L. (m.) *Coyote* chasing deer.
 Kamata. W. (f.) Throwing *gambling bones* on ground in hand game.
 Kanatu. W. (m.) Making mashed *seed* into hard lump.
 Kaptinü. W. (m.) Breaking *ice* in the creek.
 Kateuktume. L. (m.) *Bear* lying down with paws folded, doing nothing.
 Ka'uwu. L. (m.) *Acorn* mush cooling and thickening in basket.
 Kauwiluye. W. (f.) *Ice* freezing on something.
 Kono. L. (m.) *Tree squirrel* biting through middle of pine-nut.
 Kulmuye. L. (f.) *Bear* eating young leaves just sprouting.
 Kulya. L. (m.) *Sugar pine* nuts burned black.
 Laapisak. L. (f.) *Bear* walking on one place making ground hard.
 Lanku. L. (m.) Said to be a Yokuts name.
 Lanu. L. (m.) People passing one another at the *pota ceremony*, when running around pole.

- La'uyu. L. (m.) Mashed *farewell-to-spring* seed adhering to lips when eating.
- Leyati. W. (m.) Shape of *abalone* shell.
- Lii. W. (m.) *Turtle* poking head out of water.
- Liktuye. L. (f.) *Bear* licking something it has killed.
- Liluye. L. (f.) *Chicken hawk* singing when soaring.
- Lise. W. (m.) *Salmon's* head just coming out of water.
- Litcitu. W. (m.) *Salmon* swimming in river.
- Loiyetu. L. (m.) *Farewell-to-spring* in flower.
- Loiyetuye. L. (f.) *Farewell-to-spring* in flower.
- Lokni. W. (m.) *Rain* coming through small hole in roof.
- Luituye. L. (f.) *Bear* crippled from being shot.
- Lukulkatu. L. (m.) Making *fox-skin* quiver.
- Lupu. W. (f.) Iridescence of *abalone* shell.
- Lusela. L. (f.) *Bear* swinging its foot when licking it.
- Lutelü. L. (m.) *Goldfinch* flying.
- Makuina. L. (m.) *Bear* hating people.
- Makuina. L. (m.) Knocking *farewell-to-spring* seed off bush with stick.
- Malataku. W. (m.) *Clouds* covering the sky.
- Malila. W. (m.) *Salmon* going fast up riffle.
- Malkuyu. W. (m.) *Farewell-to-spring* flowers drying.
- Matecinina. W. (m.) *Salmon* jumping falls and missing.
- Matcuta. L. (f.) Cracking and eating *sugar pine* nuts.
- Metikla. W. (m.) Reaching hand under rocks to catch white *sucker fish*.
- Metikla. W. (m.) Putting on *metakila* (feather apron).
- Miltaiye. W. (f.) *Water* in waves.
- Misu. W. (m.) Rippling *water*.
- Moitoiye. W. (f.) *Valley quail's* topknot bobbing as bird walks.
- Molimö. L. (m.) *Bear* going into shade of trees.
- Momosu. L. (m.) *Yellow-jackets* piled up in nest in winter.
- Mosetuya. W. (m.) Dark-looking *water* on the ocean.
- Mu'ata. L. (m.) Little *yellow-jackets* in the nest.
- Mukuye. W. (f.) Old trail of *deer*.
- Musonota. L. (f.) *Magpie* jumping on the ground.
- Musonotoma. W. (f.) Coloring of *valley quail*.
- Mutekuye. L. (f.) Taking *bow* and *arrows* from wall to go shooting.
- Mükü. W. (m.) *Deer* making trail when walking back and forth.
- Namino. L. (m.) *Hawk* (*kilikila*) pulling at food, lifting its head as it does.
- Naminu. W. (m.) *Coyote* feeling weak after eating *salmon*.
- Natecamila. W. (f.) Stirring *acorn* mush when cooking.
- Neplü. L. (m.) *Bear* eating a man.
- Newulo. W. (m.).
- Nikiti. W. (m.) Round and smooth like *abalone* shell.
- Nimo. W. (m.).
- Niwuye. L. (f.) Getting *seed*.
- Noini. L. (m.) Putting *sonolu* (feather head-ornament) on head.
- Nokonyu. L. (m.) *Katydid's* nose being close to its mouth.
- Noksu. L. (m.) Smell of *chicken hawk's* (*suyu*) nest.
- Nomasu. W. (m.) Giving away (handing to some one) *seed*. Another informant said that *nomasu* was the name of a kind of seed.
- Oiyikoisiye. L. (f.) Getting *salt* at a place near Copperopolis.
- Oñalik. W. (m.) Making *bows* out of cedar.

- Onpume. W. (f.) *Coyote* about to catch something.
 Osepa. W. (f.).
 Osmokse. L. (m.) *Hawk* (kilikila) eating dead birds.
 Osoi. W. (m.) Becoming angry. Undoubtedly this name originally had an implied reference to some animal, since forgotten.
 Panahatcu. L. (m.) Twisting and breaking open *sugar pine* cones.
 Papina. L. (m.) *Vine* growing on oak tree.
 Pasatu. L. (m.) *Bear's* big foot.
 Paseleno. W. (f.) Getting wild *vetch*.
 Patakasü. W. (m.) Small ant biting a person hard.
 Patcuksa. W. (m.).
 Peeluyak. L. (m.) *Bear* flapping ears when sitting down.
 Pele'me. L. (m.) *Coyote* with head down passing person.
 Pelisu. W. (m.) Eating *fish* at river for lunch when on fishing expedition.
 Petno. W. (m.) *Valley quail* crouching in brush as hawk passes.
 Peusuye. W. (f.) *Water* spilling over.
 Piliteyano. L. (m.) *Jack rabbit* putting ears back when lying down.
 Pilteitema. W. (f.) *Meadowlark* singing.
 Pososu. L. (m.) Color of down of young *great horned owl*.
 Posululu. W. (f.) *Frog* puffed up when singing.
 Pota. L. (m.) One man running around *pota ceremony* pole.
 Poteu'e. W. (m.) Kicking *football*. Potce, to kick.
 Puiteitu. W. (m.).
 Pukuna. W. (f.) *Deer* jumping when running downhill.
 Pumsönö. W. (m.) *Sucker fish* jumping out of water.
 Puñoi. L. (m.) *Tree squirrel* jumping from pine to ground.
 Pusui. W. (m.) *Turkey vulture* putting rattlesnake to sleep by circling over it.
 Pusuwe. W. (m.) Cutting *deer* for skinning.
 Putepu. L. (m.) *Chicken hawk* (suyu) walking back and forth on limb.
 Putsume. L. (m.) Brushing ground around pole before *pota ceremony*.
 Putsume. L. (m.) *Bear* sitting on top of big rock with soles of feet turned forward, legs spread.
 Sakasaiyu. L. (f.) *Chicken hawk* (suyu) making a rough nest with holes in it.
 Samtuye. W. (f.) Reaching for *deer* meat when some one is handing it around.
 Sanuye. L. (f.) Red cloud coming with sundown.
 Sata. W. (m.) Throwing *salmon* out of water.
 Satuwi. L. (f.) Rubbing *farewell-to-spring* seed with rock after it has been soaked.
 Selibu. L. (f.) *Falcon* flying along edge of bluff.
 Selipu. L. (f.) *Falcon* darting down obliquely in the air.
 Selümtci. L. (m.) Shooting *arrow* up in air.
 Semeke. L. (f.) *Bear* lying down looking at ground.
 Semuki. L. (m.) *Bear* looking cross when in its den during snow.
 Semuki. L. (f.) *Wizard* (tuyuku) with fingers bent to shoot "poison" at victim.
 Siitu. L. (m.) *Maggie's* head cut off.
 Sitala. W. (f.) *Valley quail* running uphill.
 Sitki. L. (m.) Putting *arrow* in quiver.
 Sitni. W. (m.) Drawing *bow*.
 Sitpu. L. (m.) Cracking bones of *badger* after it has been cooked.
 Situtu. W. (m.) Taking *arrow* out of quiver.

- Situtuyu. L. (m.) Running hand down branch over basket and collecting *berries* that way.
- Siweno. L. (m.) Taking out *bear's* gall.
- Siwili. L. (m.) Long tail of *fox* dragging on ground.
- Sokawa. W. (m.) Taking eye out of dead *deer*, or taking hide off.
- Sokono. W. (m.) Wizard's "poison."
- Solasu. L. (m.) *Bear* taking bark off tree.
- Soloni. W. (m.) A place name in Mariposa County.
- Solotci. L. (m.) *Jack rabbit* sitting with ears up in the morning or evening.
- Soñeyu. L. (m.) *Bear* walking with its short tail hanging down.
- Sopateu. L. (m.) Raven-feather *sonolu* (head ornament) shaking on head of dancer.
- Soso. L. (m.) *Tree squirrel* biting small hole in pine nut.
- Su'aiye. L. (f.).
- Suki. L. (m.) *Chicken hawk* (suyu) having a long tail.
- Suk'kaa. L. (m.) Getting ahead of others in digging "*wild potatoes*."
- Sukukiye. L. (f.) Flat place near Rawhide.
- Sunumptea. L. (f.) Old and spoiled *sugar pine* nuts.
- Sutuluye. L. (f.) *Bear* making noise climbing tree.
- Ta'kawa. W. (m.) *Mountain lion* took his scalp off.
- Ta'kawa. L. (m.) White head of the bald *eagle*.
- Takeña. W. (m.) *Falcon* swooping and knocking down prey with its wing.
- Taktekaiyu. W. (m.) *Deer* running on the hills.
- Takuteima. L. (f.) Husking *seed* with stick on flat rock.
- Talalu. W. (m.) Big long flat *rock*.
- Tanatecio. W. (m.) *Coyote* poor and thin.
- Talatu. L. (m.) *Bear* walking around tree, steps close together.
- Talepuye. W. (f.) Polishing *abalone* shell.
- Talulu. W. (m.) *Falcon* eating bird.
- Taukiyak. L. (m.) Two *arrows* crossed, held by two warriors standing on either side of trail guarding it with drawn *bows*.
- Tawitci. W. (m.) *Turkey vulture* defecating around nest.
- Telumi. L. (m.) *Tree squirrel* taking shell off of nut.
- Telumu. L. (f.) Pounding *farewell-to-spring* seed in deep mortar.
- Tentpaiyu. W. (f.) A person feeling hungry while sitting beside one who mashes *seeds*.
- Tiimü. W. (m.) Black and yellow *caterpillar* coming out of ground.
- Tikmu. L. (m.) *Tree squirrel* digging in ground.
- Tiktcu. W. (m.) *Jacksnipe* (f) digging "*wild potatoes*" (susa).
- Tiputa. W. (f.) *Valley quail* hiding young when some one passes.
- Titci. L. (f.) *Bear* making motion at every jump when running.
- Tiwintcu. W. (m.) *Killdeer* flying and calling.
- Tiwolu. L. (m.) *Chicken hawk* (suyu) turning eggs with bill when they are hatching.
- Tokkoko. W. (m.) *Burrowing owl* coming out of hole and calling "*tok kok*." Apparently an onomatopoetic name.
- Tokoak. L. (f.) Refers to a place near Rawhide where the parents of the woman lived.
- Tokolasik. W. (f.) Black-oak *acorns* getting rotten in water, having been forgotten.
- Toktokolu. L. (m.).

- Tolikna. W. (f.) *Coyote's* long ears flapping.
- Toloise. W. (m.) *Deer* lying down and looking up at some one coming.
- Toloiisi. L. (f.) *Chicken hawk* tearing gopher snake with talons.
- Tololi. L. (m.) Digging for "wild potato" (moa).
- Tolopoiyu. L. (m.) A big-leaved vine which grows on ground.
- Tolsowe. W. (m.) *Deer* standing, head up, ears erect, looking around.
- Tolsowe. W. (m.) *Deer's* ears erect when it is looking around.
- Tonolu. L. (m.) Spotting on *California jay*.
- Tueñu. W. (m.) *Turkey vulture* lighting on rock or tree.
- Tuikuye. W. (f.) *Wizard* killing person with "poison."
- Tuketü. L. (m.) *Bear* making dust when running.
- Tukubi. W. (m.) *Tukutucu* bird singing.
- Tulanu. L. (m.) Two or three *bears* taking food from one another.
- Tulmisuye. L. (f.) *Bear* walking slowly and gently.
- Tumakaiyu. L. (m.) *Bear* remaining stubbornly in hole when people try to get it out.
- Tumptea. L. (m.) Smoking Indian *tobacco* (hutia).
- Tunaa. W. (m.) *Salmon's* intestines pulling out like string.
- Tunaa. W. (m.) Spotting on *sununu* fish (catfish).
- Tuñelu. L. (m.) *Hawk* (kilikila) roosting on top of a pine tree.
- Tusimi. W. (m.) *Wizard's* "poison" hurting victim.
- Tusuwe. W. (m.) Poking *deer's* stomach with stick, while it is cooking with meat and blood inside of it, to see if it is done.
- Tutaiyati. L. (m.) *California jay* "cackling" when singing.
- Tuwume. L. (f.) *Arrow* sticking in pota ceremony pole.
- Tülemuyak. L. (m.) Morning *star* rising.
- Tünü. W. (m.) *Deer* thinking about going to eat "wild onions."
- Tüsüku. W. (m.) Easy breaking of *shell* nose-stick.
- Teaksepuye. L. (f.) Getting light in the morning (*dawn*).
- Teanateimu. L. (f.) *Tree squirrel* "singing."
- Teanutuye. W. (f.) *Valley quail* scattering as they fly.
- Teasibu. L. (m.) *Sun* hurting eyes.
- Teatipü. W. (f.) *Deer's* antlers hitting brush when deer is running.
- Tcawiteu. L. (m.).
- Teilawi. W. (m.) One getting ahead of others in gathering *farewell-to-spring* seed. Another informant gave the connotation of this name as "cutting *salmon* in strips."
- Teilikna. L. (m.) A certain species of small *hawk* flying.
- Teipliteu. L. (m.).
- Teipuyu. W. (f.) Tying up *salmon* in willow branches before cooking.
- Teistu. L. (m.) A *night bird* calling "teik! teik!"
- Teitatpo. L. (m.) *Creepers* (akantoto) going down tree.
- Teiwela. W. (m.) Sides of *falcon's* nest covered with excrement.
- Teiwu. W. (m.) *Valley quail* defecating as it flies.
- Teiyiño. W. (m.).
- Teoileka. W. (f.) *Water* standing in one place.
- Teokotca. W. (m.) Big *cocoon* on tree.
- Teotcka. W. (m.) Sound of *water* in creek.
- Teuimukse. W. (m.) Big *black bee*, with yellow spots, gathering pollen.
- Teuke. L. (m.) Throwing seed on roof of ceremonial house after catching young of *hawk* (ititu), so that people will not become sick.

- Teukitcko. W. (f.) *Deer's intestines.*
 Teukpaiye. L. (f.) *Piling up stems of farewell-to-spring.*
 Teuktoko. W. (m.) *People arriving on time to eat deer meat.*
 Teukululuye. L. (f.) *Bear making so much noise when walking that it frightens other creatures.*
 Teulu. L. (m.) *Cooking acorns in ashes.*
 Teumaanuye. L. (f.) *Crushing manzanita berries in mortar.*
 Teumela. L. (f.) *Bears dancing in the hills.*
 Teumutuya. L. (f.) *Bear catching salmon with paws in riffle.*
 Teutubi. L. (m.) *Sun hurting eyes as it comes up over a hill.*
 Teuttoko. W. (m.) *Lumps around base of deer's antler.*
 Umlutuya. L. (m.) *Soaking seed in water on arrival home after collecting.*
 Umuye. L. (f.) *Damp ground.*
 Uptuye. W. (f.) *Piling up buckeye nuts for cooking.*
 Usepyu. L. (m.) *Bear eating something it finds dead.*
 Uskuye. L. (f.) *Cracking sugar pine nuts.*
 Utnepa. L. (m.) *Bear rolling rock with foot when pursuing something.*
 Utunya. L. (f.) *Falcon, with feathers of neck ruffled up, dashing down for prey.*
 Ututse. L. (m.) *Tasting salt after it has been boiled down in hole in rock.*
 Ulemsü. L. (m.) *Bear sleeping in hole.*
 Waketnu. L. (m.) *Indians shouting as they draw bows when fighting.*
 Wasekuye. W. (f.) *Fragments of acorns being scattered by pestle.*
 Wasilu. L. (m.) *Putting on a quail-crest ear-plug.*
 Wasilu. W. (f.) *Putting on a quail-crest ear-plug.*
 Wassusme. L. (f.) *Bear standing on hind feet scratching tree.*
 Wenitu. L. (m.) *Mixing different kinds of seeds in same basket when gathering them.*
 Wenutu. L. (m.) *Sky clearing after being cloudy.*
 Wilanu. L. (m.) *Pouring water on acorn flour in leaching place.*
 Wilu. L. (m.) *Chicken hawk (suyu) calling "wi."*
 Wiluye. L. (f.) *Eagle singing when flying.*
 Wininu. L. (m.) *Falcon circling in air.*
 Wipupamu. L. (f.) *Tearing people to pieces with mouth. This name may originally have had an implied reference to some animal, more than likely the bear.*
 Witteuna. L. (m.) *Falcon pulling feathers off quail.*
 Wopemü. L. (m.) *Bear bearing down a small tree when climbing it.*
 Wuyi. W. (m.) *Turkey vulture soaring.*
 Yaluta. L. (f.) *Women out on flat telling one another there is lots of farewell-to-spring seed.*
 Yanapaiyak. W. (m.) *Little clouds passing by sun and making small shadows.*
 Yatecalu. W. (m.) *Deer's antlers spreading wide.*
 Yeleyu. L. (m.) *Going at night, walking in the dark. Perhaps this name originally had an implied reference to some animal which habitually traveled at night.*
 Yelutei. L. (f.) *Bear traveling among rocks and brush without making noise.*
 Yenateu. L. (f.) *Little acorn just beginning to grow on tree.*
 Yenene. W. (m.) *Wizard pressing with fingers on a sleeping person to "poison" him.*
 Yewetca. L. (f.) *Bear wasting away at death.*

Yokoa. L. (m.) *Bad man killing every one.*

Yoskolo. L. (m.) *Breaking off a piece of acorn.*

Yoskolo. L. (m.) *Breaking off sugar pine cones.*

Yukukukuye. W. (f.) *Noise made by dove with wings when flying. Another informant gave the meaning of this name as "the sound made by a rolling stone."*

Yulestu. L. (m.) *Hawk (kilikila) calling as it alights.*

Yutteñe. W. (m.) *Seeds getting wet owing to a leaky roof.*

In sixteen instances I obtained more than one name for an individual. This was due in some cases to conflicting testimony as to the real name; in other cases the additional name was a nickname. A comparison of the meanings of real names and nicknames shows no special rule in the assigning of the latter. Sometimes the object mentioned or implied in the nickname is the same as in the real name; for example, the name Akaino and the nickname Huslu both refer to the bear. At other times the objects implied are different; for example, the name Lutelu refers to the goldfinch, while the nickname Wasilu refers to the quail-crest ear-plug. Some nicknames are applied on account of personal peculiarities; for example, the real name of one of my informants was Molestu, a name which referred to a magic stone connected with deer hunting, while among his nicknames were Sumteiwe and Sumteupti, which were more or less derisive names referring to his unusually full beard. Other nicknames such as Tikteu and Kaptiniü are probably derived from Dick and Captain, the English names applied respectively to the two people in question. Typical connotations were obtained for these two nicknames, however, the first referring to a bird (probably the jacksnipe), the second to ice. The real names of the individuals who bore these two nicknames were Hunui, meaning "salmon fat," and Luyu, meaning "dove shaking head sideways." Still other nicknames refer to events in the person's life. A man named Mosetuya, "dark-looking water on the ocean," bore the nickname Ta'kawa, "mountain lion took his scalp off," because of his adventure with a mountain lion.

None of the nicknames obtained apply to women. In the following table the first column contains the individual's correct name so far as ascertainable. The second column contains another name alleged to be the real name, but which I have discarded as unlikely. The presence of this column is due to conflicting testimony. The third column contains nicknames. In parentheses, following each name, is mentioned the object referred to in the meaning of the name given in the preceding lists.

Real name	Alleged name	Nickname
Akaino (bear)		Huslu (bear)
Bakno (arrow)		Yokoa (bad man)
Elki (bear)		Tulanu (bear)
Eñeto (bear)	Ukunnunu (bear)	
Hunui (salmon)		Tiktcu (jacksnipe?)
Lutelu (goldfinch)		Wasilu (quail-crest ear-plug)
Luyu (dove)		Kaptinü (ice)
Luyunu (bear)		Tumptca (tobacco)
Molestu (deer)	Wialu (dove)	Iskemu (water)
		Sumtciwe (whiskers)
		Sumtupti (whiskers)
		Ta'kawa (mountain lion)
Mosetuya (water)		
Sapata (bear)	Pasatu (bear)	
Sitni (bow)	Putu (salmon)	
Totokono (sandhill crane)	Oya (jacksnipe?)	
Teiyiño	Nimo	Akunatala
Ukulnuye (bear)	Semeke (bear)	
Yutteñe (seed)	Tanateio (coyote)	

The objects mentioned or implied in the personal names presented on pages 148 to 159 are listed below in three tabulations. The first two show the objects and phenomena mentioned or implied in water moiety names and in land moiety names, respectively. The third table lists objects common to the moieties. The figures indicate the number of names which have reference to the objects listed.

WATER MOIETY

Abalone	6	Metakila (feather apron)	1
Acorn	3	Minnow	1
Ant	1	Mountain lion	1
Beads	1	Mud	1
Black bee	1	Oak-leaf gall-nut	1
Bow, arrow, quiver	3	Physa (fresh-water snail)	2
Buckeye	1	Place name	1
Burrowing owl	1	Rain	2
Caterpillar	2	Quail-crest ear-plug	1
Cloud	3	Rock	3
Cocoon	1	Salamander	1
Coyote	6	Salmon	21
Deer	23	Sand	1
Dove	6	Sandhill crane	1
Elderberry	1	Seashell	1
Falcon	6	Seed	7
Farewell-to-spring	3	Shell nose-stick	2
Fish	5	Snow goose	1
Fog	1	Sucker fish	3
Football	1	Sununu fish	1
Frog	3	Tukutucu bird	1
Gambling bones	1	Turkey vulture	4
Hawk	1	Turtle	2
Hummingbird	2	Valley quail	9
Hunting man	1	Vetch	1
Ice	2	Water	10
Jacksnipe (?)	3	Whiskers	2
Jimson weed	1	White oak	1
Killdeer	2	"Wild cabbage"	1
Lake	1	"Wild potato"	2
Lightning	1	Wizard	4
Meadowlark	1		

LAND MOIETY

Acorn	8	Katydid	2
Animal	1	Lizard	1
Bad man	1	Magpie	3
Badger	1	Manzanita	2
Bear	69	Night	1
Berries	1	Night bird	1
Bow, arrow, quiver	9	Pine nuts	2
Buckeye	1	Place name	2
California jay	4	Pota ceremony	4
Chicken hawk	10	Quail-crest ear-plug	1
Chieftainness	1	Salt	2
Cloud	1	Seed	7
Coyote	4	Sky	1
Creepers	1	Sonolu (feather head-ornament)	2
Dawn	1	Stars	2
Dog	3	Sugar pine	8
Drum	1	Sun	5
Eagle	3	Sunny day	1
Falcon	6	Tobacco	2
Farewell-to-spring	12	Tule	1
Fire	1	Tree squirrel	8
Fox	3	Vine	2
Goldfinch	1	"Wild potato"	4
Great horned owl	3	Wizard	1
Ground	1	Wood	1
Hawk	9	Yellow-jacket	6
Jack rabbit	2		

OBJECTS COMMON TO THE MOIETIES

Object	Occurrences		Object	Occurrences	
	Water	Land		Water	Land
Acorn	3	8	Hawk	1	9
Bow, arrow, quiver	3	9	Place name	1	2
Buckeye	1	1	Quail-crest ear-plug	1	1
Cloud	3	1	Seed	7	7
Coyote	6	4	"Wild potato"	2	4
Falcon	6	6	Wizard	4	1
Farewell-to-spring	3	12			

MARRIAGES

Ninety-nine marriages were recorded among the Central Sierra Miwok, thirty-two of these being from Big Creek alone. In the following table proper marriages, that is, between individuals of different moieties, are indicated by W-L; improper marriages, that is, between individuals of the same moiety, are indicated by W-W for the water moiety and L-L for the land moiety.

	W-L	W-W	L-L	Percentage of proper marriages	Percentage of improper marriages
Village at Big Creek	26	5	1	81	19
Central Sierra Miwok, except Big Creek people	48	1	18	72	28
Central Sierra Miwok in general	74	6	19	75	25

The figures for Big Creek include marriages of such individuals whose names and meanings of names were not obtained. The figures for the Central Sierra Miwok exclusive of Big Creek do not include these.

In the above table it is to be noted that Big Creek has a lower percentage of improper marriages than the remainder of the Central Sierra Miwok region. Cross-cousin marriage which occurred there gave a wider choice of mates in the proper moiety by not restricting choice to non-relatives and distant relatives. This perhaps tended to keep down the number of improper (endogamous as to moiety) marriages.

The two following tables list, in alphabetical order of husbands' names, all of the Miwok marriages of which record has been obtained.

BIG CREEK MARRIAGES

Husband	Moiety	Named after	Wife	Moiety	Named after
Eñeto	L	Bear	Miltaiye	W	Water
Hauteu	W	Salmon	Putbana	W	Fish
Hauteu	W	Salmon	Utatei	L	Bear
Liteitu	W	Salmon	Maiyeño	L	Chieftainess
Liwanu	L	Bear	Tolikna	W	Coyote
Luyunu	L	Bear	Kauwiluye	W	Ice
Molimö	L	Bear	Bosaiya	L	Eagle
Nomasu	W	Seed	Tulmisuye	L	Bear
Nomasu	W	Seed	Wiluye	L	Eagle
Noteiteto	W	Coyote	Putkuse	L	Acorn
Omusa	L	Arrow	Posululu	W	Frog
Patakasü	W	Ant	Yewetca	L	Bear
Pelisu	W	Fish	Liluye	L	Chicken hawk
Sapata	L	Bear	Atce	W	Salmon
Sapata	L	Bear	Pilekuye	W	Shell nose-stick
Talalu	W	Rock	Niwuye	L	Seed
Tunaa	W	Salmon	Simutuye	L	Tree squirrel
Tüsüku	W	Shell nose-stick	Etumüye	L	Bear
Tcilawi	W	Salmon (also seed)	Umuye	L	Ground
Wuyi	W	Turkey vulture	Titci	L	Bear
Yottoko	W	Mud	Ukunulumaiye	L	Bear
Yutteñe	W	Seed	Teanateimu	L	Tree squirrel

MARRIAGES, EXCLUSIVE OF BIG CREEK

Husband	Moiety	Named after	Wife	Moiety	Named after
Eskeye	L	Farewell-to-spring	Matcumpaiye	L	Farewell-to-spring
Eskeye	L	Farewell-to-spring	Sumteiwe	L	Sugar pine
Hatawa	L	Bear	Pilteitema	W	Meadowlark
Hatawa	L	Bear	Sumteiwe	L	Sugar pine
Haikiwisu	W	Salmon	Semuki	L	Wizard
Hunipte	L	Seed	Polneye	W	Dove
Kilikila	L	Hawk	Huatama	L	Seed
Kono	L	Tree squirrel	Natecamila	W	Acorn
Kukse	W	Valley quail	Hesutuye	L	Yellow-jacket
Kutecuyak	L	Bear	Musonotoma	W	Valley quail
Litaña	W	Hummingbird	Laapisak	L	Bear
Lukulkatu	L	Fox	Mukuye	W	Deer
Lukulkatu	L	Fox	Oiyikoisiye	L	Salt
Lutelu	L	Goldfinch	Tiputa	W	Valley quail
Lütemü	W	Salmon	Hümüta	L	Tobacco
Malila	W	Salmon	Teumutuye	L	Bear
Malkuyu	W	Farewell-to-spring	Iteimuye	L	Magpie
Metikla	W	Sucker fish	Selipu	L	Falcon
Molestu	W	Deer	Uskuye	L	Sugar pine

Husband	Moiety	Named after	Wife	Moiety	Named after
Mulya	L	Acorn	Yaluta	L	Farewell-to-spring
Mulya	L	Acorn	Yukukukuye	W	Dove
Mükü	W	Deer	Tcumela	L	Bear
Neplü	L	Bear	Kusetuye	W	"Wild potato"
Pati	W	Fish	Tiputa	W	Valley quail
Patiwö	W	Deer	Yutteiso	L	Chicken hawk
Pele'me	L	Coyote	Posala	L	Farewell-to-spring
Pososu	L	Great horned owl	Loiyetuye	L	Farewell-to-spring
Pososu	L	Great horned owl	Yaluta	L	Farewell-to-spring
Poteu'e	W	Football	Hisokuye	L	Bear
Puñoi	L	Tree squirrel	Liptuye	L	Pine nuts
Putsume	L	Bear	Pukuna	W	Deer
Sipatu	L	Fox	Pukuna	W	Deer
Sitni	W	Bow	Sapata	L	Bear
Sitni	W	Bow	Toloisi	L	Chicken hawk
Sitni	W	Bow	Yutteiso	L	Chicken hawk
Situtu	W	Arrow, quiver	Sewati	L	Bear
Sokono	W	Wizard	Matcuta	L	Pine nuts
Solotci	L	Jackrabbit	Epeta	L	Lizard
Soso	L	Tree squirrel	Wasekuye	W	Acorn
Suki	L	Chicken hawk	Tcipuyu	W	Salmon
Sukumi	L	Great horned owl	Talepuye	W	Abalone
Sukumi	L	Great horned owl	Wasilu	W	Quail-crest ear-plug
Suletu	L	California jay	Tcaksepuye	L	Dawn
Takeña	W	Hawk	Kututcanati	L	Bear
Talatu	L	Bear	Huata	W	Seed
Tawitei	W	Turkey vulture	Kututcanati	L	Bear
Tawitei	W	Turkey vulture	Satuwü	L	Farewell-to-spring
Telumi	L	Tree squirrel	Paseleno	W	Vetch
Tikmu	L	Tree squirrel	Samtuye	W	Deer
Tikmu	L	Tree squirrel	Tuikuye	W	Wizard
Tolsowe	W	Deer	Ukulnuye	L	Bear
Tumma	L	Drum	Pikacö	L	Acorn
Tunaa	W	Sununu fish	Selibu	L	Falcon
Tunaa	W	Sununu fish	Utunya	L	Falcon
Teilikna	L	Hawk	Teukpaiye	L	Farewell-to-spring
Teititi	L	Katydid	Heteltei	L	Pota ceremony
Teuimukse	W	Black bee	Tuwume	L	Arrow
Teutubi	L	Sun	Hateya	L	Bear
Umlutuya	L	Seed	Sukukiye	L	Place name
Wenitu	L	Seed	Musonota	L	Magpie
Wininu	L	Falcon	Lupu	W	Abalone
Wininu	L	Falcon	Yukukukuye	W	Dove
Witteuna	L	Falcon	Puteeyu	W	Deer
Wootei	L	Coyote	Yukukukuye	W	Dove
Wüksü	L	Sun	Lupu	W	Abalone
Yotimö	L	Yellow-jacket	Samtuye	W	Deer

A berdache, Muliya, who was named after farewell-to-spring and belonged to the land moiety, was "married" to Taktekaiyu, a water moiety man named after deer. It seems possible that the exogamic rules regulated berdache "marriages." However, this is the only such union recorded, and the evidence is therefore insufficient. Berdaches were not infrequent. Out of five mentioned among Jamestown and Knights Ferry people, Muliya is the only one whose name was obtained. He and Taktekaiyu lived together at Teakatcino, near Jamestown.

In the three following tables are summarized all of the regular marriages of three groups of people—those with deer, salmon, and bear names. These three groups of names are the commonest among the Central Sierra Miwok. The absence of any rule in the choice of mates, other than moiety exogamy, is apparent. That is to say, for example, men with bear names did not regularly marry women who were named after one particular animal. So long as the women were of the proper moiety it did not matter what they were named after. Certain marriages occur in more than one table; for example, a deer-bear marriage would appear under both deer and bear. Irregular or endogamic marriages are excluded.

People with deer names	Married to	Number of occurrences
Man	Sugar pine	1
Man	Bear	2
Man	Chicken hawk	1
Woman	Fox	2
Woman	Bear	1
Woman	Tree squirrel	1
Woman	Falcon	1
Woman	Yellow-jacket	1

People with salmon names	Married to	Number of occurrences
Man	Bear	2
Man	Chieftainess	1
Man	Ground	1
Man	Tree squirrel	1
Man	Fish	1
Man	Wizard	1
Man	Tobacco	1
Woman	Bear	1
Woman	Chicken hawk	1

People with bear names	Married to	Number of occurrences
Man	Water	1
Man	Coyote	1
Man	Ice	1
Man	Salmon	1
Man	Shell nose-stick	1
Man	Meadowlark	1
Man	Valley quail	1
Man	Deer	1
Man	Seed	1
Man	"Wild potato"	1
Woman	Salmon	2
Woman	Seed	1
Woman	Ant	1

People with bear names	Married to	Number of occurrences
Woman	Shell nose-stick	1
Woman	Turkey vulture	2
Woman	Mud	1
Woman	Hummingbird	1
Woman	Deer	2
Woman	Bow, arrow, quiver	2
Woman	Hawk	1
Woman	Football	1

GENEALOGIES

In the genealogical information obtained there are forty-eight male lines of descent. Some of these are rather long, covering four or five generations. Others consist merely of two generations—a man and his offspring. Of these lines of descent only nine show complete transmission of the eponym of the paternal ancestor to the descendants. In other words, less than one-fifth of the Central Sierra Miwok families named all their children after the eponym of the father or other male ancestor of the group. Plainly, there is no rule of transmission of the eponym of the male ancestor, and consequently no widespread belief in descent from the eponymous animal.

If we take the forty-eight lines of descent and break them up into smaller groups, consisting in each case of father and child, we get the following results:

Number of cases	132
Percentage of children with eponym of father	41
Percentage of children without eponym of father	59

Considered from the standpoint of moieties, the following results as to transmittal of eponyms are obtained:

WATER MOIETY

Number of lines of descent	22
Eponym of paternal ancestor transmitted throughout in	14%
Eponym of paternal ancestor not transmitted throughout in	86%
Number of pairs consisting of father and child	61
Percentage of children with eponym of father	28
Percentage of children without eponym of father	72

LAND MOIETY

Number of lines of descent	26
Eponym of paternal ancestor transmitted throughout in	23%
Eponym of paternal ancestor not transmitted throughout in	77%
Number of pairs consisting of father and child	71
Percentage of children with eponym of father	52
Percentage of children without eponym of father	48

Obviously the results based on the pairs of individuals, consisting of male parent and offspring, give the more accurate data as to the tendencies of the moieties in the matter of names. Judging, therefore,

by percentages, it appears that the tendency of the water moiety as a whole was to ignore the eponym of the paternal ancestor; while the land moiety as a whole was about evenly divided on the question. It is possible, of course, that these tendencies are only local or temporary.

Disregarding moieties and putting the data on the basis of Big Creek people and Central Sierra Miwok exclusive of Big Creek people, it is found that the latter are the more zealous in the transmittal of eponyms, although in both groups they are transmitted in less than half of the cases:

BIG CREEK

Number of pairs consisting of father and child	54
Percentage of children with eponym of father	33
Percentage of children without eponym of father	67

EXCLUSIVE OF BIG CREEK

Number of pairs consisting of father and child	78
Percentage of children with eponym of father	46
Percentage of children without eponym of father	54

Going still further and considering moiety as well as locality, the curious result shown in percentages in the following table is reached:

	Big Creek		Exclusive of Big Creek	
	Water	Land	Water	Land
Transmitted	9	71	50	44
Not transmitted	91	29	50	56

It appears that the Big Creek people of the water moiety were remarkably careless about the transmission of the paternal eponym, while their fellow-villagers of the land moiety were the reverse. Upon consulting the figures for people, exclusive of Big Creek, it is found that conditions are very different, about half of the eponyms being transmitted in each moiety. Perhaps the difference in results for the two areas is due to lack of sufficient data from Big Creek.

The lines of descent on which the previous discussion is based are listed below. Sex is indicated by (m.) for male, (f.) for female. The word following each name is that of the object mentioned in the connotation or denotation of the name.

WATER MOIETY—BIG CREEK

Oñalik, bow, arrow, quiver, father of Katuye, water (m.).

Wuyi, turkey vulture, father of Notciteto, coyote (m.), of Yutu, coyote (m.), and of Wunuti, hunting-man (m.). Yutu, father of Hateaiya, cloud (f.). Wunuti, father of Teiyiño (m.). Teiyiño, father of Tiimü, caterpillar (m.) and of Lii, turtle (m.).

Teotcka, water, father of Tolikna, coyote (f.) and of Peusuye, water (f.).

Mosetuya, water, father of Totokono, sandhill crane (m.). Totokono, father of Sawa, rock (m.), of Hunui, salmon (m.), and of Yutteñe, seed (m.). Yutteñe, father of Onpume, coyote (f.).

Tunaa, salmon, father of Miltaiye, water (f.), of Talalu, rock (m.), and of Nomasu, seed (m.). Talalu, father of Putbana, fish (f.). Nomasu, father of Tukubi, tukutucu bird (m.), of Kusetu, "wild potato" (f.), of Teilawi, seed (m.), of Hupaiye, "wild cabbage" (f.), of Teanutuye, valley quail (f.), of Hutamsi, fish (f.), of Hopoto, frog (m.), of Pilekuye, shell nose-stick (f.), and of Pelisu, fish (m.). Pelisu, father of Atce, salmon (f.).

Tüsüku, shell nose-stick, father of Otu, seashells (m.), and of Hautcu, salmon (m.). Hautcu, father of Kolenya, fish (f.), and of Liteitu, salmon (m.).

Soloni, place name, father of Kauwiluye, ice (f.), of Posululu, frog (f.), and of Newulo (m.).

Teotcka, water, father of Osepa (f.) and of Almase (m.).

WATER MOIETY—EXCLUSIVE OF BIG CREEK

Luyu, dove, father of Osoi (m.), and of Yukukukuye, dove (f.).

Tusimi, wizard, father of Tuikuye, wizard (f.), and of Sokono, wizard (m.).

Ewentcu, deer, grandfather of Teatipü, deer (f.).

Teuktoko, deer, father of Hotamuye, deer (f.), of Mukuye, deer (f.), and of Mükü, deer (m.). Mükü, father of Tolsowe, deer (m.), of Samtuye, deer (f.), and of Patiwö, deer (m.). Patiwö, father of Yatcalu, deer (m.).

Hahiyo, salmon, father of Lütcmü, salmon (m.) and of Yanapaiyak, cloud (m.).

Sitni, bow, arrow, quiver, father of Kukse, quail (m.).

Leyati, abalone, father of Musonotoma, valley quail (f.).

Situtu, bow, arrow, quiver, father of Nikiti, abalone (m.), of Lupu, abalone (f.), and of Hulutuye, abalone (f.).

Metikla, sucker fish, father of Pootci, salmon (f.).

Tolsowe, deer, father of Tünü, deer (m.), and of Putceyu, deer (f.).

Müle, quail, father of Uptuye, buckeye (f.).

Takeña, falcon, father of Talulu, falcon (m.) and of Tutce, frog (m.).

Malkuyu, farewell-to-spring, father of Elsu, falcon (m.), of Teiwela, falcon (m.), of Hokoiyu, falcon (m.), and of Yutne, falcon (m.).

Potcu'e, football, father of Ape, acorn (m.).

LAND MOIETY—EXCLUSIVE OF BIG CREEK

Luyunu, bear, father of Sutuluye, bear (f.), and of Teanaticimu, tree squirrel (f.).

Tutaiyati, California jay, father of Luituye, bear (f.), of Lusela, bear (f.), and of Liwanu, bear (m.). Liwanu, father of Katcuktrume, bear (m.).

Hoho, bear, father of Solasu, bear (m.), and of Eñeto, bear (m.). Solasu, father of Sanuye, cloud (f.). Eñeto, father of Liktuye, bear (f.) and of Sapata, bear (m.). Sapata, father of Anawuye, bear (m.), of Kulmuye, bear (f.), of Molimö, bear (m.), of Wopemü, bear (m.), of Wassusme, bear (f.), of Hehe-muye, bear (f.), of Moemu, bear (m.), of Hoiyitcalu, bear (m.), and of Etumu, bear (m.).

Peeluyak, bear, father of Niwuye, seed (f.).

LAND MOIETY, EXCLUSIVE OF BIG CREEK

Noksu, chicken hawk, father of Tiwolu, chicken hawk (m.).

Sitki, bow, arrow, quiver, father of Mutckuye, bow, arrow, quiver (f.), of Waketnu, bow, arrow, quiver (m.), and of He'eluye, bow, arrow, quiver (f.).

Tumma, drum, father of Makuina, seed (m.).

Semuki, bear, father of Takutcima, seed (f.).

Tceweksu, tree squirrel, father of Tikmu, tree squirrel (m.), of Telumi, tree squirrel (m.), and of Hüümüta, tobacco (f.).

Sukumi, great horned owl, father of Wootci, coyote (m.), of Pososu, great horned owl (m.), of Tiponya, great horned owl (m.), and of Yelutci, bear (f.).

Etu, sun, father of Akulu, sun (m.), and of Mulya, acorn (m.). Mulya, father of Suletuye, falcon (f.).

Tülemuyak, star, father of Teaksepuye, dawn (f.).

Talatu, bear, father of Wüksü, sun (m.). Wüksü, father of Siitu, magpie (m.), and of Teasibu, sun (m.).

Putepu, chicken hawk, father of Toloisi, chicken hawk (f.).

Eskeye, farewell-to-spring, father of Yaluta, farewell-to-spring (f.).

Puñoi, tree squirrel, father of Matcuta, sugar pine (f.), and of Wittcuna, falcon (m.). Wittcuna, father of Tetmö, dog (m.).

Putsume, bear, father of Liñugse, tule (m.).

Pele'me, coyote, father of Ukulnuye, bear (f.), and of Posala, farewell-to-spring (f.).

Umlutuya, seed, father of Loiyetu, farewell-to-spring (m.), of Loiyetuye, farewell-to-spring (f.), and of La'uyu, farewell-to-spring (m.).

Neplü, bear, father of Esege, bear (f.) and of Teukululuye, bear (f.).

Hunipte, seed, father of Wenitu, seed (m.), of Muliya, farewell-to-spring (m.), and of Teukpaiye, farewell-to-spring (f.).

Teilikna, hawk, father of Hute, star (m.).

Soso, tree squirrel, father of Telumu, farewell-to-spring (f.), and of Teuma-anuye, manzanita (f.).

Cüsua, hawk, father of Osmokse, hawk (m.), of Kilikila, hawk (m.), of Sakati, hawk (m.), of Tuñelu, hawk (m.), of Yulestu, hawk (m.), and of Namino, hawk (m.). Kilikila, father of Teutucubi, sun (m.).

Papina, vine, father of Yoskolo, sugar pine (m.), of Sunumpteä, sugar pine (f.), and of Kulya, sugar pine (m.).

Suki, chicken hawk, father of Wilu, chicken hawk (m.).

Of value as indicating the relationship of many individuals not listed in the above lines of descent is a list of brothers and sisters. Where the implied eponym is the same in each name in a group no positive evidence is offered as to the transmission of the eponym of the father. Where the eponym in each name in a group is different it is obvious that the eponym of the father has not been transmitted throughout to the offspring. Of the thirty-four groups of brothers and sisters nine have similar eponyms, while twenty-five have dissimilar.

Hunipte, seed (m.); Umlutuya, seed (m.).

Pati, fish (m.); Metikla, sucker fish (m.).

Etu, sun (m.); Teulu, acorn (m.); Sitpu, badger (m.).

Taipa, valley quail (m.); Situtu, bow, arrow, quiver (m.).

Kutcuayak, bear (m.); Tumakaiyu, bear (m.); Suletü, California jay (m.).

Lipteu, salmon (m.); Putsume, pota ceremony (m.).

Tiwitita, killdeer (m.); Pilteitema, meadowlark (f.).
 Tolopoiyu, vine (m.); Sitki, bow, arrow, quiver (m.).
 Metikla, metakila (m.); Kolotomu, oak-leaf gall-nut (f.); Tunaa, sununu fish (m.).
 Epeta, lizard (f.); Pususu, dog (m.); Kuyunu, dog (m.).
 Tcitepu, abalone (m.); Wiskala, sand (m.).
 Wasilu, quail-crest ear-plug (f.); Moitoiye, valley quail (f.); Sitala, valley quail (f.).
 Sapata, bear (f.); Hateya, bear (f.).
 Awanata, turtle (m.); Sitni, bow, arrow, quiver (m.).
 Istu, sugar pine (m.); Ilokuk, "wild potato" (f.).
 Sipatu, fox (m.); Lukulkatu, fox (m.).
 Teuktoko, deer (m.); Pukuna, deer (f.).
 Tupi, salmon (m.); Habiyo, salmon (m.).
 Tolsowe, deer (m.); Patcuka (m.); Tusuwe, deer (m.).
 Hustemeyak, *Physa* or fresh-water snail (m.); Lutaiyet, *Physa* or fresh-water snail (f.).
 Yoskolo, acorn (m.); Septuye, fire (f.).
 Polaiyu, lake (m.); Paseleno, vetch (f.).
 Mose TUYA, water (m.); Tunaa, salmon (m.).
 Soloni, place name (m.); Tcoileka, water (f.).
 Simutuye, tree squirrel (f.); Peeluyak, bear (m.).
 Tutaiyati, California jay (m.); Wiluye, eagle (f.); Tulmisuye, bear (f.).
 Situtuyu, berries (m.); Putsume, bear (f.).
 Bosaiya, eagle (f.); Akaino, bear (m.); Tolkatcu, bear (f.); Maiyefno, chieftainess (f.).
 Misu, water (m.); Tentpaiyu, seed (f.).
 Teuttoko, deer (m.); Pukuna, deer (f.).
 Kono, tree squirrel (m.); Soso, tree squirrel (m.).
 Teintiye, buckeye (f.); Tukeye, pine nuts (f.).
 Takeña, hawk (m.); Malkuyu, farewell-to-spring (m.).
 Suki, chicken hawk (m.); Sakasaiyu, chicken hawk (f.).

The following six short genealogies are inserted in the paper as an aid to the discussion of the Miwok terms of relationship, and also for the purpose of demonstrating the existence of cross-cousin marriage (see p. 189). As heretofore, m. means male, f. female, W. water moiety, L. land moiety. Generation B in genealogy I coincides approximately in time with generation B in the other genealogies; the same is true with the other generations, all having the same letter being approximately the same in age. In addition to the letters after each name indicating sex and moiety, there are inserted, in cases where names occur more than once in the genealogies, Roman numerals and letters referring to the genealogy and generation in which the name is to be again found; for example, (IIC) placed after a name means that it is to be found also in genealogy II, generation C.

TERMS OF RELATIONSHIP

Exclusive of the terms *eselu*, child; *hikime*, child in cradle; and *luwasa*, foster-child, thirty-four terms of relationship are employed by the majority of the Central Sierra Miwok. The people in the vicinity of Big Creek employ only thirty-three terms, as their term *ate* (younger brother or younger sister) takes the place of the two terms *teale* and *kole* used for these two relationships elsewhere. In this the Big Creek people correspond with some of the Southern Sierra Miwok and with the Plains Miwok, but not with the Northern Sierra Miwok, who, like the majority of the Central people, use the two terms *teale* and *kole*. One of the striking features of the Central Sierra Miwok terms of relationship is the disregard of generation. Of the thirty-four terms, twenty-one apply to two or more relationships which are in different generations.

The following table presents an analysis of the typical Central Sierra Miwok terms on the basis of the categories used by Dr. A. L. Kroeber in his paper on "Classificatory Systems of Relationship."¹¹ His eighth category, the condition of the connecting relative, has been omitted, as it is not operative in Miwok terms. Dr. Kroeber used twenty-four Miwok terms in his comparative table, while I am using thirty-four. The changes in figures, especially for the category "Generation," which expresses "the difference between persons of the same and separate generations," are due to the larger amount of data now at hand. As remarked above, these data have shown that, considering the full use of each term, more than one generation is represented in nearly two-thirds of the terms. The crosses in the following table mean that the category named at the head of the column is operative throughout all the applications of the term opposite which it is placed. The sex of the relative, and whether the relationship is one of blood or marriage, are the two categories most frequently expressed, the former in twenty-eight of the thirty-four terms, the latter in twenty-six. No term expresses over five categories; the average term expresses three.

Considered as to moiety, it is found that of the twenty-nine terms used by a man twelve apply to relatives belonging only to his moiety, nine to relatives of the opposite moiety only, and eight to relatives who may belong to either moiety. Belonging to the man's moiety only are his *añsi*, *ene*, *haiyi*, *kole*, *kumatsa*, *moe*, *pinuksa*, *tatci*, *tete*, *tune*,

¹¹ Journ. Roy. Anthr. Inst., xxxix, 78-79, 1909.

GENERAL

1. Mosetuya (t)
=2. . . . (f) —

3. . . . (mW)
=4. . . . (f) —

5. Tunes (mW)
=6. Simutaye (f)

GENERATION

75. . . . (mL)
=76. . . . (f) —

=77. . . . (f) —

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Term	Generation	Blood or marriage	Lineal or collateral	Sex of relative	Sex of connecting relative	Sex of speaker	Age in generation
Ama	.....	x	.....	x	.....	.....	.....
Anisü	.....	.....	.....	x	.....	.....	.....
Añsi	.....	.....	.....	x	.....	.....	.....
Apasti	.....	x	.....	x	x	x	.....
Atce	.....	x	.....	.....	.....	.....	.....
Ene	x	x	x	x	x	.....	.....
Haiyeme	x	x	.....	x	x	x	.....
Haiyi	x	x	.....	x	x	.....	.....
Hewasu	x	x	.....	.....	.....	.....	.....
Kaka	.....	x	x	x	x	.....	.....
Kawu	.....	x	.....	x	x	.....	.....
Kole	.....	.....	.....	x	.....	.....	x
Kolina	.....	x	.....	x	x	x	.....
Kumatsa	.....	x	.....	x	x	.....	.....
Lupuba	.....	x	x	x	x	x	.....
Maksi	.....	x	.....	.....	.....	.....	.....
Manisa	x	x	.....	x	x	.....	.....
Moe	x	x	.....	x	x	x	.....
Naña	x	x	.....	x	.....	x	.....
Oiyame	x	x	.....	x	x	.....	.....
Olo	.....	x	.....	x	x	.....	.....
Osa	x	x	.....	x	.....	x	.....
Pansa	x	x	.....	x	x	x	.....
Papa	.....	x	.....	x	.....	.....	.....
Pinuksa	.....	x	.....	.....	.....	.....	.....
Tatci	.....	.....	.....	x	.....	.....	x
Tete	.....	.....	.....	x	.....	.....	x
Tomu	x	.....	x	x	.....	.....	x
Tune	.....	.....	.....	x	.....	.....	.....
Tcale	.....	.....	.....	x	.....	.....	x
Üpsa	.....	x	x	.....	.....	.....	.....
Üpü	x	x	.....	x	.....	.....	.....
Üta	x	x	x	x	.....	.....	.....
Wokli	.....	x	.....	.....	x	x	.....
Terms*	13	26	6	28	15	9	5

* Number of terms in which each category is expressed.

teale, and üpü, belonging to the opposite moiety only are his anisü, kaka, lupuba, manisa, oiyame, osa, tomu, üpsa, and üta; belonging to both moieties are his ama, atce, hewasu, kawu, maksi, olo, papa, and wokli. With a woman the distribution differs. She uses thirty terms to the man's twenty-nine. Fourteen she applies to relatives who belong only to her moiety; seven to relatives of the opposite moiety; and nine to relatives who may belong to either moiety according to circumstances. In the first category belong her ene, haiyeme, haiyi, kole, kumatsa, manisa, oiyame, pansa, pinuksa, tatci, tete, tcale, üpsa, and üpü; in the second category belong her añsi, anisü, kaka, naña, tomu, tune, and üta; and in the third category belong her ama, apasti, atce, hewasu, kawu, kolina, maksi, olo, and papa.

The terms of relationship with their principal applications are given below, together with any remarks that seem pertinent. The lists

of meanings are incomplete in most cases, but are supplemented a few pages beyond by additional meanings derived directly from the genealogies. Unless otherwise stated the terms older and younger in the following lists mean older or younger than the speaker. At times the diminutive suffix *-tei* or *-ktei* is added for very young brothers, sisters, nieces, or nephews, as in *tealektei* (baby younger brother), *kolektei* (baby younger sister), *üpsatci* (baby nephew).

- Ama*.¹² Grandmother, grandmother's sister, grandfather's sister, great grandmother. The reciprocal of this term is *atce*.
- Ami*. Mother's older sister, father's brother's wife if she is older than mother, mother's earlier co-wife. This term is the Big Creek equivalent of the more generally used term *tomu*. The reciprocals are *añsi* and *tune*.
- Anisü*. Mother's younger sister, father's brother's wife (younger than mother), mother's brother's daughter (one of a person's two female cross-cousins), mother's brother's son's daughter (one of a person's two female cross first cousins once removed), stepmother, mother's later co-wife. The reciprocals of this term are *añsi* and *tune*.
- Añsi*. Son, man's brother's son, woman's sister's son, woman's father's sister's son (one of her two male cross-cousins), man's father's brother's son's son, woman's paternal grandfather's sister's son (one of her male cross first cousins once removed), husband's brother's son, wife's sister's son, co-wife's son, stepson. The reciprocals of this term are *ami* or *tomu*, *anisü*, *haiyi*, *üpü*, and *üta*, in other words, father and mother, and potential stepfathers and stepmothers.
- Apasti*. Husband's brother, husband's grandfather. The reciprocal of this term is *olo* in its meanings brother's wife and grandson's wife.
- Atce*. Grandchild, man's sister's grandchild, woman's brother's grandchild, great grandchild. The reciprocals of this term are *ama* and *papa*.
- Ate*. Younger brother, younger sister, father's brother's younger children, mother's sister's younger children, younger stepbrother, younger stepsister. This term is the Big Creek equivalent of the more generally used terms *kole* and *teale*. The reciprocals of this term are *tatei* and *tete*.
- Ene*. Father's sister, father's father's brother's daughter. The reciprocal of this term is *üpsa* in its meanings woman's brother's child and woman's father's brother's son's child.
- Eselu*. Child, man's brother's child, woman's sister's child.
- Haiyeme*. Later co-wife, husband's brother's wife. The reciprocal of *haiyeme* in the first meaning is *pansa*, in the second *haiyeme*. In this last respect, that is, being its own reciprocal, the term *haiyeme* parallels *moe* and *maksi*, and *pinuksa* in part.
- Haiyi*. Mother's sister's husband, stepfather (providing he is not father's brother when *üpü* is used). Nowadays there is a tendency to apply the term *haiyi* to father's brother; this, however, is a modern innovation probably due to contact with the whites, for the ancient term for father's brother is *üpü*. The reciprocals of this term are *añsi* and *tune*.

¹² In the San Miguel dialect of Salinan this term is used for father's parents. See J. Alden Mason, *The Ethnology of the Salinan Indians*, Univ. Calif. Publ. Am. Arch. Ethn., x, 170, 1912.

- Hewasu.** Parent-in-law, husband's father's brother, husband's mother's sister, wife's father's brother, wife's mother's sister, man's brother's wife's parents, woman's sister's husband's parents. The reciprocals of this term are *manisa* and *oiyame*.
- Kaka.** Mother's brother, mother's brother's son (one of a person's two male cross-cousins, and in the light of Miwok cross-cousin marriage a man's potential brother-in-law). The reciprocals of this term are *üpsa* and *lupuba*.
- Kawu.** Sister's husband, father's sister's husband, woman's brother's daughter's husband, granddaughter's husband. The reciprocal of this term is *wokli*.
- Kole.** Younger sister, father's brother's younger daughter, mother's sister's younger daughter, younger half sister, female cross-cousin's (*anisü*) younger daughter if not speaker's daughter also, younger stepsister, younger foster sister. The reciprocals of this term are *tatei* and *tete*. At Big Creek *ate* is used in place of this term.
- Kolina.** Husband's sister, husband's father's sister, husband's grandmother. The reciprocal of this term is *olo*.
- Kumatsa.** Mother's brother's wife, man's sister's son's wife (a man's own daughter in case of Miwok cross-cousin marriage). The reciprocal of this term is *pinuksa* in its meanings husband's mother's brother and husband's sister's child. Two Jamestown informants gave *manisa*, with the meaning husband's sister's son, as a reciprocal of *kumatsa*. This of course would indicate cross-cousin marriage. Five other informants, however, gave *pinuksa* as the proper term for this relationship.
- Lupuba.** Man's sister's daughter, man's father's sister's daughter (one of a man's two female cross-cousins). The reciprocal of this term is *kaka*.
- Maksi.**¹³ Son's or daughter's spouse's parents, son's wife's brother, daughter's husband's sister, man's sister's husband's parents, woman's brother's wife's parents. The reciprocal of this term is *maksi*; it is paralleled in this regard by *moe* and in part by *haiyeme* and *pinuksa*.
- Manisa.** Son-in-law, man's brother's daughter's husband, woman's sister's daughter's husband, daughter's husband's brother. The reciprocal of this term is *hewasu*.
- Moe.** Wife's sister's husband. This term is the reciprocal of itself, in this respect being paralleled by *maksi* and in part by *haiyeme* and *pinuksa*.
- Naña.** Husband. The reciprocal of this term is *osa*.
- Oiyame.** Daughter-in-law, man's brother's son's wife, woman's sister's son's wife, son's wife's sister. The reciprocal of this term is *hewasu*.
- Olo.** Brother's wife, woman's brother's son's wife, grandson's wife. The reciprocals of this term are *apasti* and *kolina*.
- Osa.** Wife. The reciprocal of this term is *naña*.
- Pansa.** Earlier co-wife. The reciprocal of this term is *haiyeme* in its meaning later co-wife.
- Papa.** Grandfather, grandmother's brother, great grandfather. The reciprocal of this term is *ate*.
- Pinuksa.** Husband's mother's brother (a woman's own father in case of Miwok cross-cousin marriage), husband's sister's child, man's sister's daughter's husband, wife's mother's brother. In its first two meanings the reciprocal of this term is *kumatsa*; the second two meanings are the reciprocals of each other.

¹³ Cf. Yokuts *maksi*, A. L. Kroeber, *The Yokuts Language of South Central California*, Univ. Calif. Publ. Am. Arch. Ethn., II, 240, 1907.

- Tatci.* Older brother, father's brother's older son, mother's sister's older son, older half brother, female cross-cousin's (anisü) older son, older stepbrother, older foster-brother. The reciprocals of this term are teale and kole, which are included in the one term ate at Big Creek.
- Tete.* Older sister, father's brother's older daughter, mother's sister's older daughter, older half sister, female cross-cousin's (anisü) older daughter, older stepsister, older foster sister. The reciprocals of this term are kole and teale, which are included in the one term ate at Big Creek.
- Tomu.* Mother's older sister, father's brother's wife (older than mother), mother's earlier co-wife. The reciprocals of this term are afisi and tune. At Big Creek the term tomu is replaced by the term ami.
- Tune.* Daughter, man's brother's daughter, woman's sister's daughter, woman's father's sister's daughter (one of a woman's two female cross-cousins, and in the light of Miwok cross-cousin marriage her potential sister-in-law), man's father's brother's son's daughter, husband's brother's daughter, wife's sister's daughter, co-wife's daughter, stepdaughter. The reciprocals of this term are ami or tomu, anisü, haiyi, üpü, and üta; in other words, father and mother, and potential stepfathers and stepmothers.
- Tcale.* Younger brother, father's brother's younger son, mother's sister's younger son, younger half brother, female cross-cousin's (anisü) younger son if not speaker's son also, younger stepbrother, younger foster brother. At Big Creek ate is used in place of this term. The reciprocals of this term are tatci and tete.
- Üpsa.* Man's sister's son, woman's brother's child, man's father's sister's son (one of a man's two male cross-cousins), woman's father's brother's son's child. The reciprocals of this term are kaka and ene.
- Üpü.* Father, father's brother, father's father's brother's son. The reciprocals of this term are afisi and tune. There is a modern tendency to use the term haiyi for father's brother. Although üpü is the vocative form for father's brother, he is sometimes distinguished otherwise by the addition of the words tuni (younger) or upela (older), and is then spoken of as younger father or older father. If father has only two brothers and he himself is either the oldest or the youngest, the one intermediate in age is spoken of as middle father, the word kauwina (middle) being added.
- Üta.* Mother. The reciprocals of this term are afisi and tune.
- Wokli.* Wife's brother, wife's sister, wife's brother's child, wife's father's sister, wife's grandparents. The reciprocal of this term is kawu.

A demonstration of the use of the preceding terms of relationship is given below. Mrs. Sophie Thompson (39. Pilekuye) and her daughter, Mrs. Lena Cox (58. Kulmuye), gave me the status, so far as they were concerned, of ninety-one other inhabitants of Big Creek known to them. Of these seventy-nine stand in some relation, either blood or marriage, to the two informants. The list of Big Creek inhabitants by no means exhausts the people whom the informants reckoned as relatives. A few of their many relatives who lived elsewhere are also included in the list given below.

For the sake of brevity in the following list I have used the number assigned to each individual in the genealogies, in place of the individual's name. Where any special remarks have been considered necessary they have been inserted. The terms applied by each individual to the two informants are not given below, but they can be derived readily enough by looking up in the preceding list the reciprocal of the term applied to the individual by the informant.

1. Papa (father's father's brother) to 39; papa (mother's father's father's brother) to 58.
5. Papa (father's father) to 39; papa (mother's father's father) to 58.
6. Ama (father's mother) to 39; ama (mother's father's mother) to 58.
7. Upü (father's father's brother's son) to 39; papa (mother's father's father's brother's son) to 58.
9. Same as last.
11. Upü (father) to 39; papa (mother's father) to 58.
12. Ami (mother's earlier co-wife) to 39; ama (mother's mother's earlier co-wife and father's father's father's brother's daughter) to 58.
13. Same as last.
14. Same as last.
16. Upü (father's brother) to 39; papa (mother's father's brother) to 58.
17. Ami (father's brother's wife older than mother) and ama (father's mother's brother's daughter) to 39; ama (mother's father's brother's wife and mother's father's mother's brother's daughter) to 58.
18. Ene (father's sister) and hewasu (mother-in-law) to 39; ama (mother's father's sister and father's mother) to 58.
19. Kawu (father's sister's husband) and hewasu (father-in-law) to 39; papa (father's father) to 58.
20. Tatci (father's father's brother's son's older son) to 39; kaka (mother's father's father's brother's son's son) to 58.
21. Same as last.
22. Olo (father's father's brother's son's son's wife) to 39; no relation to 58. 39 first said that 22 was no relation; then on second thought gave the above. 58 had ceased to think of 22 as a relative at all, although 22 stands in the relation of kumatsa (mother's father's father's brother's son's son's wife) to 58.
23. Same as 20.
24. Same as 20.
25. Tete (father's father's brother's son's older daughter) to 39; ami (mother's father's father's brother's son's daughter older than mother) to 58.
27. Kawu (father's father's brother's son's daughter's husband) to 39; haiyi (mother's father's father's brother's son's daughter's husband) to 58.
28. Same as 27.
29. Same as 27.
30. Tatci (older half brother) to 39; kaka (mother's half brother) to 58.
31. Tete (older half sister) to 39; ami (mother's older half sister) to 58.
32. Same as 30.
33. Olo (half brother's wife) to 39; kumatsa (mother's half brother's wife) to 58.

34. Same as 30.

35. Same as 33.

36. Same as 31.

37. Same as 31.

38. Tatci (older brother) to 39; kaka (mother's brother) to 58.

40. Añsi (father's sister's son) and naña (husband) to 39; üpü (father) to 58. If 40 were not the husband of 39 and the father of 58, he would stand in the relation of tatci (mother's father's sister's son) to 58. Hence it might be said that 58 is both the daughter (tune) and younger sister (ate) of 40, a paradox which is the product of cross-cousin marriage and a system of relationship which does not fit that form of marriage.

41. Ate (younger sister) to 39; anisü (mother's younger sister) to 58.

42. Kawu (sister's husband) to 39; haiyi (mother's sister's husband) to 58.

43. Añsi (mother's sister's daughter's son) and kawu (sister's husband) to 39; haiyi (mother's sister's husband) to 58. 43 must also stand in the relation of tatci (mother's mother's sister's daughter's son) to 58, although the informant did not state this to be so. 58 regarded 43 rather as an uncle (haiyi) than as a brother (tatci).

44. Ate (father's brother's younger daughter) to 39; anisü (mother's father's brother's daughter younger than mother) to 58.

45. The informants stated that this man was no relation. Nevertheless to 39 he stands in the relation of kawu (father's brother's daughter's husband) and to 58 he stands in the relation of haiyi (mother's father's brother's daughter's husband). It is quite possible that the informants made a mistake in the case of this man, although, on the other hand, they may not have thought of him as related to them even by marriage. As a matter of fact, 39 and 58 have an ancestor in common with 45; this ancestor is 75. The blood relationship to 39 would be that of father's mother's half sister's son's son. Compare 82, 83, 84.

46. Tune (father's sister's daughter) and kolina (husband's sister) to 39; ene (father's sister) to 58.

47. Üpsa (half brother's daughter) and pansa (earlier co-wife) to 39; anisü (mother's half brother's daughter) and ami (mother's earlier co-wife) to 58. Pilekuye (39) stated that she drove Atce (47) out of her husband's house after she (Pilekuye) became co-wife, a statement which sheds light on the probable condition in many polygynous Miwok households.

48. Üpsa (father's father's brother's son's son's daughter) to 39; anisü (mother's father's father's brother's son's son's daughter) to 58.

49. Kawu (father's father's brother's son's son's daughter's husband) to 39; haiyi (mother's father's father's brother's son's son's daughter's husband) to 58.

50. Tune (father's father's brother's son's daughter's daughter) to 39; tete (mother's father's father's brother's son's daughter's older daughter) to 58.

51. Üpsa to 39, which relationship was not traced out, owing to lack of time. By marriage to 50, however, 51 became manisa (father's father's brother's son's daughter's daughter's husband) to 39 and kawu (mother's father's brother's son's daughter's daughter's husband) to 58.

52. Same as 50.

53. Same as 51 by marriage.

54. Same as 50.

57. Añsi (son) to 39; tatci (older brother) to 58.

59. Añsi (son) to 39; ate (younger brother) to 58.

60. Kolina (husband's father's mother's half sister's son's daughter) and oiyame (daughter-in-law) to 39; ene (father's father's mother's half sister's son's daughter) and olo (brother's wife) to 58.

61. Same as 59.

62. Tune (daughter) to 39; ate (younger sister) to 58.

63. Same as 62.

64. Same as 59.

65. Same as 59.

66. Same as 59.

67. Añsi (sister's son) to 39; tatei (mother's sister's older son) to 58.

68. Same as 67.

69. Tune (father's brother's daughter's daughter) to 39; tete (mother's father's brother's daughter's older daughter) to 58.

70. Añsi (father's brother's daughter's son) to 39; ate (mother's father's brother's daughter's younger son) to 58.

71. Kolina (husband's father's mother's half sister's son's daughter) and oiyame (son's wife's sister and father's brother's daughter's son's wife) to 39; ene (father's father's mother's half sister's son's daughter) and olo (mother's father's brother's daughter's son's wife and brother's wife's sister) to 58.

72. Atce (father's father's brother's son's daughter's daughter's son) to 39; añsi (mother's father's father's brother's son's daughter's daughter's son) to 58.

73. Olo (father's father's brother's son's daughter's daughter's son's wife) to 39; oiyame (mother's father's father's brother's son's daughter's daughter's son's wife) to 58.

74. Atce (half brother's daughter's son) to 39; ate mother's half brother's daughter's son) to 58.

78. Papa (father's mother's brother) to 39; papa (mother's father's mother's brother) to 58.

82. The informants stated that this man was not related to them, meaning undoubtedly that they did not normally think of him as a relative. He actually stands in the relation of üpü (father's mother's half sister's son) to 39. The informants did not treat 83, 84, 45, or 85 as related to themselves through 82. 83, 84, and 45 were considered non-relatives.

85. Olo to 39; kumatsa to 58. For the facts bearing on this questionable relation see the remarks following 114.

90. Apasti (husband's father's father) to 39; papa (father's father's father) to 58.

93. Kawu (father's collateral sister's¹⁴ husband) and hewasu (husband's father's brother) to 39; papa (father's father's brother) to 58.

95. Maksi (son's father-in-law) and hewasu (husband's father's mother's half sister's son) to 39; maksi (brother's father-in-law) and papa (father's father's mother's half sister's son) to 58.

96. Maksi (son's mother-in-law) to 39; maksi (brother's mother-in-law) and ama (father's father's mother's half sister's son's wife) to 58.

97. Tune (father's collateral sister's daughter) and kolina (husband's father's brother's daughter) to 39; ene (father's father's brother's daughter) to 58.

98. Kolina (husband's father's mother's half sister's son's daughter) and oiyame (son's wife's sister) to 39; ene father's father's mother's half sister's son's daughter) and olo (brother's wife's sister) to 58.

¹⁴ Collateral sister is the daughter of father's brother or mother's sister, in other words, an identical cousin.

99. Apasti (husband's father's mother's half sister's son's son) and maksī (son's wife's brother) to 39; üpü (father's father's mother's half sister's son's son) to 58.

102. Hewasu (husband's father's father's brother's son) to 39; papa (father's father's father's brother's son) to 58.

104. Kolina (husband's father's father's brother's son's daughter) and anisü (mother's co-wife's brother's daughter) to 39; ene (father's father's father's brother's son's daughter) to 58.

105. Same as last.

107. Apasti (husband's father's father's brother's son's son) and kaka (mother's co-wife's brother's son) to 39; üpü (father's father's father's brother's son's son) to 58.

108. Said by informants not to be regarded as a relative. Nevertheless 108 stood in the relation of haiyeme (husband's father's father's brother's son's son's wife) and kumatsa (mother's co-wife's brother's son's wife) to 39, and in the relation of either ami or anisü (father's father's father's brother's son's son's wife) to 58.

109. Ate (mother's co-wife's brother's daughter's son) to 39; kaka (mother's mother's co-wife's brother's daughter's son) to 58.

110. Añsi (husband's father's father's brother's son's son's son) and kaka (mother's co-wife's brother's son's son) to 39; ate (father's father's father's brother's son's son's son) to 58.

113. Ate (mother's sister's younger daughter) to 39; anisü (mother's mother's sister's daughter) to 58.

114. Kawu (mother's sister's daughter's husband) to 39; haiyi (mother's mother's sister's daughter's husband) to 58.

The individuals 115 to 122 are related to 39 and 58 because Nomasu (11) "used to spark with Posululu's [120] mother" [117]. I do not know whether this statement by Mrs. Thompson meant that 11 was actually the father of 118, 120, and 122 or not. At any rate, the terms applied by her to these three individuals were the same as those applied to real brothers and sisters. The following relationships and also that of 85, the informant said, are based on the above.

115. Ene to 39. 115 being ene to 120, who is counted as tete to 39, 115 is reckoned as ene to 39 also. The relationship is not logical whether reckoned by descent or by marriage.

116. I did not obtain the relationship to 39 and 58.

117. I did not obtain the relationship to 39 and 58.

118. Tete to 39; ami to 58.

119. Kawu to 39; no relation to 58.

120. Same as 118.

121. Counted as no relation. However, if 119 stands in the relation of kawu to 39 this man ought to also.

122. Tatei to 39; kaka to 58.

Many of the above meanings of the terms of relationship are additional to those already given in the list of terms. These additional

meanings are listed below, and may be summarized in the statement that they represent the usual collateral application of terms common to the so-called classificatory systems of relationship. Meanings of terms already given in the list of terms of relationship are omitted in that which follows. It should be remembered that the ensuing use of terms is entirely from the standpoint of a woman as the speaker.

Ama

Father's mother's brother's daughter.
 Father's father's mother's half sister's son's wife.
 Mother's father's brother's wife.
 Mother's father's mother's brother's daughter.

Ami

Mother's older half sister.
 Mother's earlier co-wife.
 Mother's mother's earlier co-wife.
 Mother's father's father's brother's son's daughter.
 Father's father's father's brother's daughter.

Anisü

Mother's half brother's daughter.
 Mother's mother's sister's daughter.
 Mother's co-wife's brother's daughter.
 Mother's father's brother's younger daughter.
 Mother's father's father's brother's son's son's daughter.

Añsi

Father's brother's daughter's son.
 Husband's father's father's brother's son's son's son.
 Mother's sister's daughter's son.
 Mother's father's father's brother's son's daughter's daughter's son.

Apasti

Husband's father's father's brother's son's son.
 Husband's father's mother's half sister's son's son.

Atce

Half brother's daughter's son.
 Father's father's brother's son's daughter's daughter's son.

Ate

Father's father's father's brother's son's son's younger son.
 Mother's half brother's daughter's younger son.
 Mother's co-wife's brother's daughter's younger son.
 Mother's father's brother's daughter's younger son.

Ene

Father's father's father's brother's son's daughter.
 Father's father's mother's half sister's son's daughter.

Haiyi

Mother's mother's sister's daughter's husband.
 Mother's father's father's brother's son's daughter's husband.
 Mother's father's father's brother's son's son's daughter's husband.

Hewasu

Husband's father's father's brother's son.
 Husband's father's mother's half sister's son.

Kaka

Mother's half brother.
 Mother's co-wife's brother's son.
 Mother's co-wife's brother's son's son.
 Mother's mother's co-wife's brother's daughter's son.
 Mother's father's father's brother's son's son.

Kawu

Father's father's brother's son's daughter's husband.
 Father's father's brother's son's son's daughter's husband.
 Mother's sister's daughter's husband.
 Mother's father's father's brother's son's daughter's daughter's husband.

Kolina

Husband's father's brother's daughter.
 Husband's father's father's brother's son's daughter.
 Husband's father's mother's half sister's son's daughter.

Kumatsa

Mother's half brother's wife.

Manisa

Father's father's brother's son's daughter's daughter's husband.

Oiyame

Father's brother's daughter's son's wife.
 Mother's father's father's brother's son's daughter's daughter's son's wife.

Olo

Brother's wife's sister.
 Half brother's wife.
 Father's father's brother's son's son's wife.
 Father's father's brother's son's daughter's daughter's son's wife.
 Mother's father's brother's daughter's son's wife.

Papa

Father's father's brother.
 Father's father's father's brother's son.
 Father's father's mother's half sister's son.
 Mother's father's brother.
 Mother's father's father's brother.
 Mother's father's father's brother's son.
 Mother's father's mother's brother.

Tatci

Father's father's brother's son's older son.

Tete

Father's father's brother's son's older daughter.
 Mother's father's brother's daughter's older daughter.
 Mother's father's father's brother's son's daughter's daughter.

Tune

Father's brother's daughter's daughter.
 Father's father's brother's son's daughter's daughter.

Ūpsa

Half brother's daughter.
 Father's father's brother's son's son's daughter.

Ūpü

Father's father's father's brother's son's son.
 Father's father's mother's half sister's son's son.

My oldest informant, Tom Williams of Jamestown, stated that in the case of endogamic (as to moiety) marriages the terms of relationship for persons connected through the marriage were altered. Every other informant denied this. Tom, however, volunteered the information in such a straightforward manner that it seems not unlikely that this was the practice in former times. All of the terms which are said to be changed by the tabu marriage denote relationships which are normally the result of marriage. Furthermore, each expresses a relationship which is at least one generation removed from the speaker, never in the speaker's generation. In each case of change a term is substituted which brings the person addressed one generation nearer the speaker. No change is made in the case of relatives connected by the marriage are of one generation. The motive of the change would seem to be the desire to ignore the improper (endogamic) marriage. This alleged peculiarity of the Miwok kinship nomenclature has been disregarded in the inferences drawn in this paper owing to lack of verification. The data are presented as a matter of record, the examples given by Tom Williams being tabulated below.

<i>The term</i>	<i>Its most direct normal application is</i>	<i>In case of endogamic marriage it is applied to</i>	<i>On account of the below-named persons being of the wrong moiety</i>	<i>Had the marriage been proper (exogamic) the term used would have been</i>
Eselu	Child under 15 years of age	Grandchild (through son) under 15 years of age	Grandchild's parents	Atce
Añsi	Son	Grandson (through son)	Grandson's parents	Atce
Tune	Daughter	Granddaughter (through son)	Granddaughter's parents	Atce
Ūpū	Father	Paternal grandfather	Speaker's parents	Papa
Tomu	Mother's older sister	Paternal grandmother	Speaker's parents	Ama
Ūpsa	Sister's son (m.s.)	Grandson of sister (m.s.)	Sister's husband (m.s.)	Atce
Apasti	Husband's brother	Husband's father	Husband	Hewasu
Olo	Brother's wife	Son's wife (m.s.)	Son's wife	Oiyame
Kolina	Husband's sister	Husband's mother	Husband	Hewasu
Kolina	Husband's sister	Son's wife (w.s.)	Wife	Oiyame
Tatei	Elder brother	Sister's daughter's husband (m.s.)	Husband if older than speaker	Pinuksa
Tcale	Younger brother	Sister's daughter's husband (m.s.)	Husband if younger than speaker	Pinuksa

TERMINOLOGY AND SOCIAL CUSTOMS

Of the female relatives who are normally of the opposite moiety, a man may sometimes marry his anisū who stands in the relation to him of cross-cousin or first cousin once removed (mother's brother's daughter or mother's brother's son's daughter).¹⁵ He may not marry

¹⁵ See the discussion of this matter under the heading "Cross-Cousin Marriage," p. 81.

the anisü who stands in the relation to him of mother's younger sister. There seems to be no objection, however, to a man marrying his anisü who is his mother's collateral sister. The marriage of 41 and 43 in genealogy I, generation D, and genealogy V, generation E, is of this type, 41 standing in the relation to 43 of mother's mother's sister's daughter. A man may not marry his lupuba, his tomu, or his oiyame. Speech with his oiyame (usually daughter-in-law) is tabued.

Of the female relatives who may belong to either moiety, he may marry only those individuals who are not of his moiety, as follows: upon the death of his brother, his olo who stands in the relation of brother's wife; and upon the death of his wife, his wokli who stands in the relation of wife's sister, wife's brother's daughter, or wife's father's sister. He may form a polygynous union with any of the last three during the lifetime of his wife. The marriage of 40 to 39 after his marriage to 47 (genealogy I, generations D and E) affords an example of a man marrying his wife's father's [half] sister.

A woman may sometimes marry her añsi who is her cross-cousin, or first cousin once removed (father's sister's son of father's father's sister's son), or her añsi who is her collateral sister's son, as in the case cited above (41 and 43 in genealogies I and V). She may not marry the añsi who is her own son or her sister's son. She may not marry her kaka. Of the male relatives who may belong to either moiety a woman may marry those who are not of her moiety, as follows: upon the death of her husband or of her married sister, her apasti, who stands in the relation of husband's brother, or her kawu, who stands in the relation of sister's husband, father's sister's husband, or brother's daughter's husband. She may also become a co-wife in a polygynous union with either of the last three. The marriage of 39 to 40 in genealogy I, generation D, exemplifies this, for 40 was already the husband of 47 (generations D and E), who was 39's [half] brother's daughter. If 40 had married 39 first and then 47, the second marriage would have been an example of a woman marrying her father's [half] sister's husband, or to state it from the opposite standpoint, an example of a man marrying his wife's [half] brother's daughter. The marriage of 11 to 14 (genealogy I, generation C) is another case in point. 14 stood in the relation of üpsa (probably brother's daughter) to 12 and 13. Hence when 11 married 14 he married his wives' brother's daughter. 12, 13, 14, and 15 were co-wives married to 11; 39 and 47 were co-wives married to 40.

Speech tabus between relatives among the Miwok are correlated, so far as they go, with certain of the types of marriage. Between people of the same moiety tabus operate as follows: between a man and his mother-in-law, between a man and his mother-in-law's sisters, between a man and his mother's brother's wife, and between a woman and her son-in-law's brother. Tabus between relatives of different moieties are those between a woman and her father-in-law, a woman and her father-in-law's brother, and a man and his daughter-in-law's sisters. It is to be noted that when it is permissible for relatives to marry after the death of the connecting relative, no speech tabu is imposed upon them during the life of the connecting relative. Conversely, tabus continue in operation after the death of the connecting relative, just as terms of relationship do, for example, mother-in-law and son-in-law. If it becomes necessary to address a tabu relative on account of the absence of a go-between, the plural form is used, and, as an Indian expresses it, he talks to his relative as though she were more than one person. For example, a man would address his kumatsa (mother's brother's wife) by the plural kumatsako.

In the succeeding paragraphs the application of terms of relationship, which apparently have been conditioned by social customs, will be discussed. The social phenomena, outside of exogamy, which I believe to have been particularly potent in molding the features of the Miwok terminology, are the right of marriage to certain of the wife's relatives and descent in the male line. Then, too, a psychological factor may be invoked, namely, the feeling that one brother may be substituted for another, or, in other words, that brothers are essentially alike. The use of the term *üpü* (father) for father's brother indicates this sentiment, and shows that the father and the father's brother were regarded as more or less interchangeable as husbands and fathers. This use of the term *üpü* might be interpreted as indicating polyandry in which two or more brothers married a single woman. There is not the slightest pretext, however, for believing that such a form of marriage ever existed among the Central Sierra Miwok. The concept of the similarity of brothers found expression in the practice of a man marrying his brother's widow and thus becoming the father of his brother's children. The inclusion of the father and his brother in the term *üpü* is just the reverse of the careful distinction of the mother and her sisters by the terms *üta*, mother; *tomu* or *ami*, mother's older sister; and *anisü*, mother's younger sister.

Upon the death of his wife a man might marry her sister, in case he had not already done so in a polygynous marriage. These two customs, the marriage of a man to his brother's widow and to his wife's sister, readily account for the applications of the twelve terms of relationship which follow. It is not claimed that the terms have resulted only from these two types of marriage, but it is claimed that the types of marriage and the use of the terms are in agreement and certainly seem to stand in the relation of cause and effect.

Upü

Father.
Father's brother.

Añsi

Son.
Man's brother's son.
Woman's sister's son.
Husband's brother's son.
Wife's sister's son.

Tune

Daughter.
Man's brother's daughter.
Woman's sister's daughter.
Husband's brother's daughter.
Wife's sister's daughter.

Kole

Younger sister.
Father's brother's younger daughter.
Mother's sister's younger daughter.

Tatci

Older brother.
Father's brother's older son.
Mother's sister's older son.

Tete

Older sister.
Father's brother's older daughter.
Mother's sister's older daughter.

Tcale

Younger brother.
Father's brother's younger son.
Mother's sister's younger son.

Hewasu

Father-in-law.
Husband's father's brother.
Wife's father's brother.
Mother-in-law.
Wife's mother's sister.
Husband's mother's sister.

Manisa

Son-in-law.
Man's brother's daughter's husband.
Woman's sister's daughter's husband.
Daughter's husband's brother.

Oiyame

Daughter-in-law.
Man's brother's son's wife.
Woman's sister's son's wife.
Son's wife's sister.

Haiyeme

Later co-wife.
Husband's brother's wife.

Anisü

Stepmother.
Mother's younger sister.
Father's brother's wife.

The term *anisü* denotes among immediate relatives the mother's brother's daughter, the mother's younger sister and the father's brother's wife, providing she is younger than the mother. The mother's older sister and the father's brother's wife, providing she is older than the mother, are called *tomu*, or, among the Big Creek people, *ami*. The identity of the terms in each of these pairs of relationships need not be taken as an indication of double marriage, although informants stated that two brothers did at times marry two sisters, and such indeed would be the case were cross-cousin marriage rigorously adhered to. The identity of the terms undoubtedly arises from the two marriage customs mentioned above, which have nothing to do with either double marriage or cross-cousin marriage; namely, the marrying of the brother's widow and of the wife's sister. Hence, regarded from the standpoint of myself, my mother's sister and my father's brother's wife are both the potential wives of my father and both my potential stepmothers. To my mind this accounts for the identity in terminology without involving double marriage or cross-cousin marriage. As I will show later, cross-cousin marriage is undoubtedly a late and not general development and has had no effect on the terminology of relationship.

The identification of the mother's brother's daughter with the mother's younger sister and the father's brother's wife younger than the mother is apparent in the use of the term *anisü* for these three relationships without any qualifying term. As corroboration of this identification, it must be noted that the reciprocals of the various

meanings of the terms *anisü* and *tomu* are identical throughout. They are *añsi* and *tune*, that is, son and daughter. Furthermore, a man or a woman calls the children of the *anisü* cross-cousin (mother's brother's daughter), when they are not the man's own, his or her brothers and sisters, just as is done with the children of other *anisü* relatives, notably mother's sister's children. Light is thrown on this identification of the mother's brother's daughter with the mother's younger sister and the father's brother's wife younger than the mother by the Miwok custom of a man marrying his wife's brother's daughter in cases of polygamy or after the death of his wife. In some cases, if she were too young for him to marry, she was held for him until she had reached the marriageable age, when she was handed over to him. To myself, therefore, my mother's brother's daughter also stands in the relation of father's potential wife or potential stepmother, just as do my mother's sister and my father's brother's wife. The reflection, in the term *anisü*, of this form of marriage; namely, of a man to his wife's brother's daughter, is indicative of its antiquity. The term *anisü* might be translated, not by its various applications, but by the term potential stepmother, a translation which would apply consistently to the individuals included under the term.

Other Miwok terms of relationship give additional proof of the marriage of a man to his wife's brother's daughter. The term *wokli* is applied not only to wife's brother or sister but also to wife's brother's son or daughter. This means that a man's wife's brother's daughter may become his wife, thus making the remaining children of his first wife's brother his brothers- and sisters-in-law. The application of the reciprocal of *wokli*, *kawu*, to sister's husband and father's sister's husband indicates the same kind of marriage, which, as already pointed out, is the actual custom. This type of marriage is reflected altogether in twelve terms, to wit: *anisü*, *añsi*, *kaka*, *kawu*, *kole*, *lupuba*, *tatei*, *tete*, *tune*, *teale*, *üpsa*, and *wokli*.

A woman calls her father's sister's children, who are her cross-cousins, son and daughter, terms which seem to have arisen from this form of marriage. Viewed from the standpoint of the woman, she marries her father's sister's husband; hence his children become her stepchildren. In Miwok terminology, whether she marries the man or not, his children (her cross-cousins) are called *añsi* and *tune* (son and daughter) by her, and she is called *anisü* (potential stepmother) by them. The principle is carried into other terms, for her brother is called *kaka* (mother's brother) by them, while he applies the terms

üpsa and lupuba (sister's son and daughter) to them, according to their sex. We thus find that the Miwok classification of cross-cousins seems to be based entirely on this form of marriage; namely, that of a woman to her father's sister's husband or of a man to his wife's brother's daughter. The cross-cousins are:

Man's mother's brother's daughter—*anisü*.

Man's mother's brother's son—*kaka*.

Man's father's sister's son—*üpsa*.

Man's father's sister's daughter—*lupuba*.

Woman's mother's brother's daughter—*anisü*.

Woman's mother's brother's son—*kaka*.

Woman's father's sister's son—*afisi*.

Woman's father's sister's daughter—*tune*.

It is to be noted that the mother's brother's son and daughter are called by the terms for uncle and potential stepmother (*kaka* and *anisü*), whether the speaker is a man or a woman. A woman's father's sister's son and daughter are called son and daughter, while a man's father's sister's son and daughter are called nephew and niece.

The practice of cross-cousins applying to each other the terms used by children and parents, or by children and aunts and uncles, is closely paralleled elsewhere in the world. Dr. R. H. Codrington¹⁶ has recorded a case in the Banks Islands which Dr. W. H. R. Rivers¹⁷ has cited. Exact parallels to the terminology in the Banks Islands are found among the Minnitarees, Crows, Choctaws, Creeks, Cherokees, and Pawnees.¹⁸ All of the above cases would be the result, Dr. Rivers claims, of the marriage of a man to his mother's brother's wife. This type of marriage is impossible among the Miwok on account of moiety exogamy and descent in the male line, so that here the parallel between the Miwok, Melanesian, and eastern North American cases ceases. The Miwok terminology is probably caused, however, by the reverse custom of a woman marrying her father's sister's husband, or, stating it from the standpoint of a man, of a man marrying his wife's brother's daughter. To me it seems probable that this custom is responsible for the uniting of my mother's brother and his male descendants, immediate and through males, *ad infinitum*, in the term *kaka*. Likewise it is probably responsible for the uniting of my

¹⁶ *The Melanesians, Studies in Their Anthropology and Folk-Lore* (Oxford, Clarendon Press, 1891), 38-39.

¹⁷ *Kinship and Social Organization* (London, Constable & Co. Ltd., 1914), 28.

¹⁸ *Ibid.*, 53.

mother's brother's female descendants immediate and through males, *ad infinitum*, in the term *anisü*, for all are the potential wives of my father. Dr. Robert H. Lowie points to an identical combination of male descendants of the mother's brother among the patrilineal Omaha, Oto, Kansa, and other Siouan tribes.¹⁹ He would lay this to the operation of exogamy and to the extension of the use of terms of relationship to clan brothers and sisters, rather than to a special marriage custom, as Dr. Rivers would. Among the Miwok there are no clan or moiety brothers and sisters, all relationship being based on blood and marriage ties. Marriage custom and terminology among the Miwok would seem, therefore, to support Dr. Rivers' contention. Other features which would arise from the type of marriage just discussed are also present both among the Omaha and the Miwok; for example, the classing together of father's sister's daughter and sister's daughter. Among the Omaha my mother's brother's daughter's son is my brother; so he is also among the Miwok, where my mother's brother's daughter may be my stepmother, for my father has a right to marry her in case of my mother's death, or in case he desires to have more than one wife.

To sum up, I do not deny the potency of exogamy to bring about the Omaha and Miwok type of nomenclature, but I do claim for the marriage custom cited an equal potency to bring about such a result.

The combining of woman's sister's husband and woman's brother's daughter's husband in the term *kawu*, and of wife's sister and wife's father's sister in the term *wokli*, are reflections of the marriage of a man to his wife's father's sister and conversely of a woman to her brother's daughter's husband.

In Miwok polygynous marriages it is said to have been not uncommon for a man to marry two sisters. Such a marriage is shown in genealogy I, generation C. Nomasu (11) married Wiluye (12) and Tulmisuye (13), who were real sisters (see genealogy IV, generation C). This type of marriage is reflected but faintly in the nomenclature of relationship. The remarks under 107, page 178, in the demonstration of the terms of relationship based on the genealogies, bring to light a reflection of this type of marriage. The term *kaka*, usually applied to mother's brother and mother's brother's son, is here applied to mother's co-wife's brother's son just as if mother's co-wife was mother's sister, which she is not in this case. The fact that this term is here applied to a person through a co-wife who is not mother's

¹⁹ Exogamy and Systems of Relationship, *Am. Anthr.*, n. s., xvii, 238, 1915.

sister leads one to believe that co-wives were usually sisters. For similar examples see 109 and 110. Other terms of relationship are also used on the basis of treating co-wives as sisters; for instance, see the use of *anisü* in 104, of *ate* in 109, and of *ami* in 12 and 47. In the last two instances the mother's co-wife is called by the term used for mother's older sister.

CROSS-COUSIN MARRIAGE

When asked if it were proper for a man to marry a cousin, *Miwok* informants always replied in the negative. In obtaining genealogical information, however, cases came up in which a man married his mother's brother's daughter. I called my informant's attention to this fact and received the reply that the individuals concerned were not regarded as cousins, for they stood in the relation of *añsi* and *anisü* to each other, which translated into English would be son and aunt, or potential stepmother. This affords an excellent example of the futility of using English terms of relationship with natives when discussing native customs.

Every *Miwok* to whom the question was put stated that the proper mate for a man was a woman who stood in the relation of *anisü* to him, providing she was not too closely related to him.²⁰ Although a man might marry his *anisü* cross-cousin, who was the daughter of his mother's brother, he could under no circumstances marry his *lupuba* cross-cousin, who was the daughter of his father's sister. This one-sidedness of cross-cousin marriage among the *Miwok* in no way affected its popularity, or, to be more exact, the popularity of *anisü*-*añsi* marriages, of which the cross-cousin marriage is one form. In many cases my informants would state that a certain man and his wife stood in the relation to each other of *añsi* and *anisü*. Although these instances were not substantiated, except in four cases, by genealogical proof, they show the popularity of this form of marriage. At Big Creek six of the listed marriages are of this type, eight are not, and on the remaining eight I have no information. Cases were encountered in which a husband and wife claimed to stand in the *añsi*-*anisü* relation to each other, but, when asked to demonstrate the relation, were unable to trace the connecting links. This state of affairs shows clearly that *añsi*-*anisü* marriages must have been the vogue, otherwise married

²⁰ See meanings of term *anisü* on pages 172 and 179; also discussion of term under "Terminology and Social Customs."

people who could not prove such a relationship would not lay claim to it. Even among the Northern Sierra Miwok at Elk Grove, among whom the moiety system does not seem to exist, *añsi-anisü* marriages were the custom. The Southern Sierra Miwok of Madera County state that these marriages were proper, but that the contracting parties must be only distantly related.

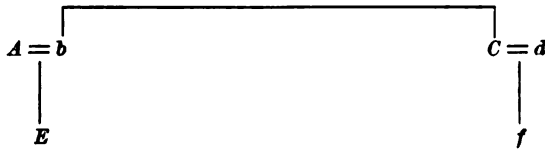
Informants at Jamestown, while stating that *anisü-añsi* marriages were prevalent there as elsewhere, said that marriages between first cousins, who stood in this relation, were commoner higher in the mountains than at Jamestown. The men at Jamestown and lower in the foothills were inclined to marry an *anisü* further removed than a first cousin. There seems to have been a sentiment at Jamestown against the marriage of first cousins. One woman was asked if she would consider it proper for her son to marry her brother's daughter. She replied, "No, she is too much like his mother," meaning herself. Her reply may have been engendered by the Miwok custom of a man marrying his wife's brother's daughter. By this marriage his new wife, who is also his son's *anisü* cross-cousin, would become his son's stepmother; hence perhaps the woman's statement with regard to her son's *anisü* cross-cousin, "too much like his mother."

The identification of the *anisü* cross-cousin with the mother's younger sister and father's brother's wife younger than mother has already been discussed under the heading "Terminology and Social Customs." As stated there, there are twelve terms which reflect the marriage of a man to his wife's brother's daughter. Turning now to cross-cousin marriage, let us search for terms which reflect it. We find that there are none. With the popularity of cross-cousin marriage in the minds of the people at present, one might expect to find identical terms for such relationships as mother's brother and man's father-in-law, mother's brother's wife and man's mother-in-law, son and daughter and son and daughter of a man's *anisü* cross-cousin, but such terms are lacking.²¹ The only evidence which possibly favors antiquity of cross-cousin marriage lies in the speech tabu which exists between a man and his mother's brother's wife or *kumatsa*, who in view of cross-cousin marriage is his potential mother-in-law. The

²¹ As mentioned on page 173 in the discussion of the term *kumatsa*, two Jamestown informants gave the term *manisa* (normally son-in-law) for husband's sister's son instead of the usual term *pinuksa*. If this usage were established it could be said that cross-cousin marriage did have a reflection in the nomenclature. However, five other informants gave *pinuksa*, not *manisa*, as the proper term.

Miwok, like other California Indians, imposed a tabu upon a man and his mother-in-law.

The situation there is this: There is in the Miwok terminology of relationship an undeniable reflection of the marriage of a man to his wife's brother's daughter; on the other hand, there is no reflection whatever of cross-cousin marriage. This implies that the former is the more primitive custom of the two. It may be shown in a diagram as follows:



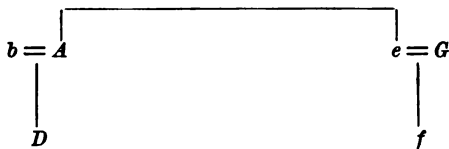
In this diagram, if *E* marries *f*, who is *E*'s mother's brother's daughter (anisü cross-cousin), *A* cannot marry *f*, who is his wife's brother's daughter, because *f* has already become his son's wife, and all intercourse between a man and his daughter-in-law is tabued. If *E* did not marry *f*, *A* would have a perfect right to her, for *f* is his wife's brother's daughter and his potential wife. Thus we have the two types of marriage in conflict, for either a man or his son may claim the same woman, *A* claiming *f* because she is his wife's brother's daughter, *E* claiming *f* because she is his anisü (mother's brother's daughter). Informants and genealogies vouch for the occurrence of both forms of marriage, which if taken as synchronous for any one woman would mean polyandry, of which there is no trace, a man and his son having one woman in common. It is easily conceivable, however, that the two practices existed side by side.

An attempt to show the connection between these two intimately related forms of marriage will now be made. It has already been pointed out that the marriage of a man to his wife's brother's daughter is reflected in twelve terms of relationship. Evidently, therefore, a man regarded his wife's brother's daughter as his potential wife, for in some cases of polygyny, and of the death of the first wife, he married her. Here seems to me to be the key to the mystery of the one-sided Miwok cross-cousin marriage. The man who thus had a right to marry his wife's brother's daughter may have passed that right on to his son. In other words, the marriage right of the father became vested in the son in cases in which the father did not avail himself of it. This hypothesis explains why two blood relatives, who recip-

roccally used the terms for son and potential stepmother, or aunt, and who might actually become stepson and stepmother, should marry. The theory that cross-cousin marriage has been thus evolved from another form of marriage through descent in the male line, displays it as a secondary, and perhaps recent, form of marriage, which has not yet affected the nomenclature of relationship. If it were found in future investigations that the father paid for his wife's brother's daughter and then let his son marry her, our hypothesis would become almost an established fact.

Two terms of relationship, which are reciprocals, seem to support this hypothetical origin of cross-cousin marriage. They are *kolina* and *olo*. In *kolina* are united the husband's sister and the husband's father's sister, which would be the case where both a man and his father had the right to a woman. To fit our hypothesis more exactly, however, the meanings combined should be husband's sister and husband's son's sister (that is, stepdaughter).

If we admit the cogency of the above theory as to the origin of the unilateral Miwok cross-cousin marriage, we immediately have at hand an explanation of why the other form of cross-cousin marriage is forbidden. When a man marries his wife's brother's daughter he marries a person who is normally not his blood relative. As I have already pointed out, it is but a simple step to extend to the man's son the privilege of marrying the same woman, providing the man himself does not do so. Now let us try to imagine the forbidden cross-cousin marriage arising in a similar manner. In the first step this involves the marriage of a man to his son's *lupuba* cross-cousin, that is, to his son's father's sister's daughter, who is his own sister's daughter. She is called *lupuba* by both the man and his son. In the diagram *D* and *f* are the cross-cousins. *A* has absolutely no right to *f*, his son's cross-



cousin. In the first place, she is not related to his wife *b*, and in the second place she is the daughter of his own sister *e*, and hence a close blood relative. As we recall, his right to his son's other female cross-cousin (*anisü*) was based on the fact that she was his wife's brother's daughter and normally not his blood relative. It would seem that the

prohibition against a man marrying his lupuba, who is his sister's daughter, had been extended to the son, thus preventing the latter from marrying his lupuba, who is his father's sister's daughter and his own cross-cousin.

If Miwok cross-cousin marriage had arisen in any other way than the hypothetical way already outlined it is hard to imagine why it should be restricted to only one pair of cross-cousins. The very fact that it is so restricted strengthens the theory of origin primarily through the passing on of a privilege in the male line. In allowing the one kind of cross-cousin marriage and not the other the Miwok evidently considered inheritance as more important than consanguinity; yet where inheritance had no weight consanguinity became active and prevented the other form of cross-cousin marriage.

Two first cousin marriages of the cross-cousin type were recorded. The first case is in generation C, in genealogies I and II; the individuals are numbered 16 and 17. Talalu (16) married Niwuye (17), who is the daughter of his mother's (6, Simutuye) brother (78, Peeluyak). The second case is in generation D of genealogy I; the individuals are numbered 39 and 40. Sapata (40) married Pilekuye (39), who is the daughter of his mother's (18, Miltaiye) brother (11, Nomasu). One marriage between first cousins once removed was recorded. The marriage is that of Sapata (40) and Atce (47). It is recorded in generations D and E of genealogy I. Sapata (40) married the daughter (47, Atce) of his mother's (18, Miltaiye) brother's (11, Nomasu) son (32, Pelisu).

CONCLUSION

The discovery of a dual social organization among the Mono and the Yokuts tribes, as mentioned in the introduction, indicates that they together with the Miwok form a compact unit socially. Judging from Dr. J. Alden Mason's statement²² as to the presence of a bear and a deer "totem" among the Salinan Indians, it seems safe to infer that the moiety organization will be found to extend to the coast. Among the Central Sierra Miwok the bear is the animal associated most frequently through personal names with the land moiety; the deer is the animal associated most frequently in a like manner with

²² The Ethnology of the Salinan Indians, Univ. Calif. Publ. Am. Arch. Ethn., x, 189, 1912.

the water moiety. These facts suggest that the bear and the deer "totems" among the Salinan may stand for two moieties.

The greater complexity of the moiety organization among the Tachi Yokuts about Tulare Lake as compared to the Central Sierra Miwok organization leads to the impression that the latter people are on the periphery of the moiety area. Although it is too early in the study to advance a positive opinion, the distribution of the institution, together with its varying complexity, seems to point to the San Joaquin Valley as the region from which the organization spread to the mountain tribes, perhaps to the west as well as to the east.²³

²³ For a preliminary notice see *Dichotomous Social Organization in South Central California*, Univ. Calif. Publ. Am. Arch. Ethn., xi, 291-296, 1916.

Transmitted September 18, 1915.

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October 11, 1916

ON PLOTTING THE INFLECTIONS OF
THE VOICE

BY

CORNELIUS B. BRADLEY

UNIVERSITY OF CALIFORNIA PRESS
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PREFATORY NOTE

When first undertaken, the study which forms the subject of this paper was no more than a mere incident in the attempt to clear up the confusion and uncertainty which till then had beset a certain question of phonetics, namely, the precise nature of the tonal inflections or modulations which, in languages of the Chinese type, are essential features of every spoken word. The conclusions reached through scientific analysis and measurement of wave-lengths could not be made convincing and conclusive without the help of a thoroughly accurate and trustworthy scheme for representing them visually. The time and the effort actually spent in perfecting such a scheme, which is, of course, a mere instrument, may seem altogether disproportionate to the end in view. But the perfect instrument was in this case absolutely necessary to the attainment of the end; and a scientific quest is not to be lightly abandoned because the tools for it are not ready to hand.

The scheme finally worked out is one which enables the student to translate accurately to the eye the physical facts which the ear reads as figure or movement within the field of pitch. It was shaped for a definite and single use. But a perfected instrument often finds much wider use than that for which it was shaped at first. So I have been encouraged to make it known, in order that it may be within the reach of all who may have occasion to use it. Already it is likely to be tried in the attempt to improve and enrich the speech of deaf-mutes, which is pitifully lacking in the element of tone, chiefly because of the difficulty of conveying to the sufferers any intelligible ideas or suggestions concerning modulation of the voice.

To my colleagues of the Department of Anthropology of the University of California—Drs. Pliny E. Goddard, A. L. Kroeber, and T. T. Waterman—I am greatly indebted: to the first for the initial impulse received as I watched his work in recording Indian speech; to all of them in succession for generous and untiring assistance in securing the numerous records of the voice which formed the material of my studies; and especially to Dr. Waterman for the unfailing interest and enthusiasm with which he has followed my work—a stimulus without which I doubt whether this particular phase of that work would ever have been brought to completion.

Some years ago I chanced to call one day at the Anthropological Laboratory of the University of California, and found my colleagues there deeply engaged in study of instrumental records of Indian speech. They were kind enough to show me the Rousselot apparatus, and to illustrate its working by taking a few records of my own utterance of Siamese speech, which is my other vernacular.

My friends were interested at once in the peculiar sharp explosion (without aspiration) of my oriental *p*, *t*, and *k*, as shown in the record, contrasting strongly with the windy utterance given these consonants in our speech. But as I followed the delicate sinuous tracing of the vowels, it suddenly flashed upon me that each of those tiny waves was the record of the air-pulse from one vibration of the vocal chords; that its length was the direct measure of the time elapsed during that vibration, and consequently of the pitch of the voice at that particular instant. I knew then that I had within my grasp the definite settlement of the age-long dispute over the "tones" of oriental speech. The pitch of every portion of the vowel-note could be absolutely determined by physical measurement of those waves, and the whole movement or inflection of voice could thus be accurately plotted on paper. We then should have irrefragable demonstration of the precise nature of these "tones," instead of irreconcilable discrepancies between the sense-impressions of untrained observers on the one hand, and, on the other, the idle fancies embodied in the native tradition and nomenclature. So, with Dr. Goddard's kind help, I presently secured a series of records of each of the five "tones" of the Siamese language.¹

¹ A number of these records are shown in Plate 1. Those used in this study were all taken at the highest speed of the apparatus, so as to facilitate measurement by giving the greatest possible length to the waves in the tracing. The working of the machine and the method of securing the records may be

Finding myself at that time too busy with my regular duties to carry this investigation further, I laid the records aside; but later, when I went abroad for a year of study in the Orient, I took the records with me. There, in the intervals of a larger quest, I found time to work out the results.

First came the measurements. The records of the various "tones" showed anywhere from 50 to 150 separate waves. At first an attempt was made to measure these one by one with a micrometer. After full trial, however, this scheme was abandoned, not so much because of the time and effort it involved, as because time and effort so spent were largely wasted. The exactness attainable by the micrometer was rendered of no avail because of the impossibility of determining with equal exactness the points between which the measurements were to be taken. For, while the larger phases of the waves were obvious enough, the determination of the exact point which should mark crest or hollow was as nearly impossible as it would be in the case of a sea-wave. So, to reduce to a minimum the inevitable errors of judgment, recourse was had to measuring the waves in small groups together, and reading the scale with a vernier-glass to the nearest hundredth of an inch.² Of the measurements so made, the smallest

briefly described as follows: The various air-pulses originating in the vocal apparatus are transmitted to a sensitive tympanum or drum, which in turn actuates a recording pen. Every separate impulse received by the tympanum gives the pen a slight thrust to one side, from which the elasticity of the tympanum promptly brings it back. The recording point lightly touches the surface of a sheet of smoked paper wrapped about a revolving brass cylinder driven by clock-work at a uniform rate of speed. So long as the tympanum is undisturbed by air-pulses, the point traces a perfectly straight white line around the cylinder. If one speaks into the receiver, each consonant breaks the smooth straight line for an instant into sudden and angular commotion, while the vowel-tones ruffle it into a series of regular waves which are often embroidered or fringed by delicate ripples or cusps caused by the overtones of the voice or by the resonance of the chambers of the vocal apparatus. These features of the vowel-tracings may be readily seen in the examples shown in Plate 1. Since the paper moves at a uniform rate under the recording point, the measurement of any one of the primary waves in the record will give its pitch relatively to the others; for pitch is determined by frequency of vibration.

For a fuller description of the apparatus and of its workings, see P. E. Goddard, "A Graphic Method of Recording Songs," in Boas Memorial Volume, p. 137.

² In the first experiments the waves were measured in groups of three. Later the number was increased to five, with no appreciable loss in accuracy. For the inflections of speech, unlike those of music, are true glides, with no abrupt steps or breaks which might be concealed or obscured under these averages. And in any case the thing sought is the general figure or pattern of the voice-inflection rather than its minute detail, which varies greatly with every utterance.

These measurements were recorded just as they were taken, without reducing them to the average of each group. Reduction was unnecessary, since in either case they represent ratios, and not concrete quantities. Furthermore, they are liable to reduction later to adjust them to the amended scheme yet to be described, and that single operation suffices for all.

in the whole series was 18 hundredths of an inch, and the largest 64 hundredths, showing a compass of a little less than two octaves.

All that now remained was to plot the results on the chart. But just how was this to be done? To this question I had so far given almost no thought, feeling sure that some form of the co-ordinate system now everywhere used in statistical work could easily be adapted to the needs of the case. But confronting the problem directly, and with no record of previous attempts to guide me, I found myself at a loss. On reflection, however, it occurred to me that since the whole purpose of this study was to secure a plotted figure which should supplement and correct the imperfect and fleeting image of the sound formed in the mind, the plotted figure must be really comparable with the mental one—must have the same essential plan and structure. That is, the two must have the same system of co-ordinates. This brought me to the question, How does the mind image pitch?

In listening to the flow of speech, it is probable that the mind does not ordinarily form any distinct image of the sensation of pitch. For the attention is then directed to the *ensemble* by which the mind recognizes words and phrases, and follows the general drift of thought rather than any one of the many separate elements which together make up the utterance.³ Ordinarily the function of pitch in speech is a very subordinate one, being either incidental to emphasis, or suggestive of the syntactical or modal features of the utterance. So far is it from being an essential element, that it is entirely omitted in the written form of all languages except, of course, those in which voice-inflection is as truly an organic feature of words as are their vowels and consonants.⁴ Within the field of speech, therefore, we shall look in vain for any clear answer to our question, How does the mind image pitch?

If, however, we turn to music, we find that in it pitch is no longer

³ To this fact is due in large part the difficulty which European students experience in understanding and mastering the "tones" of Chinese speech. Their minds have never been trained to take note of the pitch of individual words, and therefore they never really hear it.

⁴ Chinese writing represents a word in its entirety by a single ideographic symbol. The "tone" is inherent in the word itself, just as are all the other phonetic elements which together make up its complex. It therefore needs no separate indication. So far as known to the writer, the only modern language which consistently marks voice-inflection in writing is the Siamese, which, though an offshoot of the Chinese stock, spells its words phonetically and indicates the "tone" of each, either by the choice of letters in which tone is inherent, or else by diacritical marks. The accents of ancient Greek, however, were doubtless also tonal inflections essential to the right utterance of the syllable, and were undoubtedly present in speech long before it became necessary to invent marks to indicate their nature and position in the word.

subordinate or incidental, but a matter of prime importance. There is no doubt that when the mind pauses to consider the notes of music, it does actually image their tonal relations—does translate them into figures of location or of movement in space. To discover the essential features of this imaging we shall not need to have recourse to the psychological laboratory. They are plainly indicated in the terms which the speech of widely different races commonly applies to musical tones. Degrees of pitch are indicated by such terms as “high” and “low.” Direction of change, or movement in pitch, are indicated by such terms as “rising,” “falling,” and “level.” And further, wherever these terms occur, they are invariably used in the same sense. That is, notes of great frequency of vibration are always “high,” and those of small frequency are always “low,” and never *vice versa*.⁵ The whole scheme of our musical notation is nothing but an elaborate development and enforcement of this same principle. Its “staff” is a veritable ladder on which the notes are visibly ranked according to pitch.

It should be remarked, however, that this particular usage of speech is not the only one that has been current in the world, or that is now current. And it is probably not the earliest usage, but one that has gradually won its way over the others. For example: of the three Greek accents already referred to, one was called *ὀξύς* (sharp), and another was called *βαρύς* (heavy)—terms certainly of an order altogether different from our terms “high” and “low,” and apparently unrelated to each other. The third, *περισπώμενος* (twisted about), is probably of our spatial order, for it designates the circumflex tone, which first rises and then falls, and so is actually turned about upon itself. Thus it appears that at the period when the tonal features of Greek speech came to be matters of thought and reflection, three separate analogies were already in the field, and each furnished one of the names then given to them. But it is significant that later still, when it became necessary to mark these inflections in writing to save them from being lost, the three marks were all of one system, and that

⁵ Since there seems to be nothing either in the physics of sound or in the nature of the mind to bring about this unanimity, it must be ascribed to some very early and widespread convention based, perhaps, on some external and incidental thing in musical art, such, for example, as the relative positions in which the various notes of some primitive musical instrument were produced or played. One can easily imagine that the particular instrument was the pipe, a thing of immense antiquity, and still in use throughout the greater part of the world. It is, in fact, nothing but a whistle with a tube long enough for finger-holes, and played in the flageolet position. The notes lowest in pitch are thus sounded from the openings which are lowest in actual position, and those higher in pitch, from openings higher up on the tube.

one is our own of spatial representation. For the marks are really nothing but tiny diagrams of the gestures by which one might instinctively illustrate the three movements in pitch: / rising, \ falling, — circumflex. "Sharp," the equivalent of the Greek term *ὀξύς*, still survives as a technical term in modern music for a note slightly raised in pitch; but its counter-term "flat" seems to be a recent invention, the logical basis of which is not clear.

We have turned from the field of speech to that of music because only in music have the phenomena of pitch received the full attention necessary to the formulation of a usage which clearly reveals the workings of the mind in dealing with this matter. The usage of music shows that the modern mind at least has learned to visualize pitch spatially, as position on a vertical scale, with notes of shorter vibration above, and notes of longer vibration below.

But pitch is not the only thing to be provided for in our scheme. Inflection of the voice has also the element of movement and change, and these can take place only in time. The chart must provide also for this other dimension, time. Fortunately there is here no difficulty, for the mind habitually co-ordinates space and time, and readily translates either one of these into terms of the other. It images time as the track of a moving point—that is, as a line. Unless otherwise determined by outside circumstances, the movement seems generally figured as horizontal, and from left to right across the field.⁶

The results of this excursus into the realm of psychology may be summed up as follows. The essential elements of the mental image of an inflection of the voice are two: pitch and time. Pitch is figured as position attained at a given instant on a vertical scale. Time is figured as advance from point to point measured on a horizontal scale. The inflection itself is figured as a line which is the resultant of these two components.

These principles determined the general scheme of the chart to be as follows: The series of numbers derived from measurements and representing the various levels of pitch, are the vertical elements of the chart, that is, its ordinates; and numbers representing the time-intervals are the horizontal elements, that is, its abscissas.

There still remained the problem of spacing in both these dimen-

⁶ Both these features are doubtless due to convention—perhaps both to the same convention, namely to the direction taken by Indo-European writing. Both are abundantly attested by our modern cartographic treatment of all statistical matter involving the element of time. In antiquity we find the same idea reflected in the Greek accent-marks already alluded to. How Arabians and Chinese image time I am unable to say.

sions. Following the common practice in the plotting of statistics, the spacing was made uniform throughout each of these dimensions, but not alike in both. Unit-spaces on the co-ordinate paper were assigned to the vertical series of measurement-numbers representing the various levels of pitch;⁷ and a constant small interval, sufficient to give the requisite spread to the figure and to bring out its features, was chosen, after experiment, as the horizontal time-interval of advance between successive stations on the chart.

This scheme was carried out as follows: Beginning at the left-hand margin, the first measurement was entered as a pencil-dot at the beginning of the line which bore its number. The second was next entered upon its own numbered line, but advanced toward the right by the interval determined upon. The other measurements followed in their order, each on its own numbered line and at the same constant interval to the right, till all the measurements of that particular record were plotted. A continuous curving line was then drawn through the series of plotted points, and the figure so completed represented visually the whole movement or inflection of the voice in uttering that syllable.⁸ In like manner the four other "tones" of the series were plotted upon the same sheet. Finally the whole was brought into approximate relation with concert-pitch by finding on a piano the pitch at which I habitually sounded the more level stretch of the "middle tone"—which was F. From this the positions of the other notes of the diatonic scale were computed by the help of the well-known ratios of the musical intervals,⁹ and their places were marked upon the margin. So far as I can ascertain, this was the first attempt ever made to plot from measurements the inflections of the human voice. The chart was completed in November, 1908, and was exhibited at a public meeting of the Siam Society in Bangkok on February 2 following.

The experiment was more successful than I had dared to hope. The results were perfectly clear and convincing. The general scheme was evidently right. Careful study, however, revealed a certain distortion of vertical values which interfered with accurate comparison of one of these figures with another in a different portion of the field—a distortion in kind not unlike the horizontal distortion of Mercator's

⁷ In this case the measurement-numbers ran from 18 at the top of the sheet to 64 at the bottom. Cf. plate 2 and p. 198 *ante*.

⁸ The figure so plotted is the rising glide shown in plate 2, which is a reproduction of my original chart published in the *Journal of the American Oriental Society*, xxxi, pt. 3, p. 286. 1911.

⁹ Cf. *Century Dictionary* s. v. Interval.

maps. The source of it was found to be the equal spacing of the vertical series of numbers representing the levels of pitch. While these numbers increase from above downward in arithmetical progression, the musical intervals, as plotted on the chart, increase in geometrical progression, with the result that any given interval of the lower octave occupies a vertical space just twice as great as the same interval of the upper octave. An upward sweep of an octave from middle pitch would appear only half as long as a descending sweep of an octave from the same starting-point. This distortion is brought out unmistakably if one compares the rising glide in plate 2 with the falling one. The rising glide covers fourteen semitones, while the falling one covers six and one-half. Yet on the chart the vertical reach of the former is only a trifle greater than that of the latter.¹⁰ The distortion would be very much greater if voices of entirely different range, such for example as the masculine and the feminine, were plotted together according to this scheme and brought into comparison. In such a case, indeed, effective comparison would be almost impossible.

Now the ear knows nothing whatever of measurements such as we have been making; but beyond question it recognizes all octave cycles as equal. Whether this is due to the recognition directly by the ear of cycles of recurrent unison, or whether it was first suggested by the fact that, in instruments like the pipe, the upper and the lower octaves are played from the same openings and over the very same length of tube, are questions which need not detain us here. But if the octaves are equal, then it follows inevitably that the semitones—if they be equal divisions of the octave—are all equal to each other. This equality, moreover, is enforced by the almost universal use of the tempered scale for musical instruments played either with keys or with frets. Thus our visual imagination and our thought too, unless sophisticated by physics, follow suit of the ear and make the semitones equal.

The error being thus located, the first step toward rectifying it was obvious and easy, namely, to make the semitone-intervals equal

¹⁰ This element of vertical distortion, coupled with another of horizontal distortion to be noticed later, may also be clearly seen if one compares figure 1 of plate 5, where both errors are uncorrected, with figure 2 of the same plate, where both are eliminated. The vertical element works as gravity does, progressively diminishing all upward movement as represented on the chart, making it fall short of its due height; and progressively increasing all downward motion, making it overshoot its mark. The other (the horizontal) distortion gives to ascending motion a greater spread than is its due, and to descending motion a spread proportionately less. The two together make the plotted figure of the rising inflection both shorter and flatter than it should be, and that of the falling inflection both deeper and steeper.

upon the chart. So the symbols of the twelve semitones took the places previously occupied by the measurement-numbers on the unit-lines of the paper. But the next step—to find new places for those ousted numbers—was not by any means so easy. Indeed, it was long before any clear lead appeared. After much vain groping it suddenly flashed upon me one day that each semitone of the octave has its distinct numerical value, namely, its ratio to the fundamental note of the scale. And this numerical value it brings with it to the new position in which it has been placed. These decimal ratios of the semitones therefore, equally spaced, form the determining series of the corrected chart, in the intervals of which the integers of the measurements must be interpolated, each in its proper place. I had found the clew, but was by no means out of the labyrinth.

The ratios of the diatonic scale already mentioned would not answer here, for their intervals are not equal. I was where no books of reference were accessible, and I am not at all sure that I should have found what I wanted, if I had had them. Thrown back thus upon my own resources, I reflected that the octave ratios form a series in geometrical progression—1, 2, 4, 8, 16, and so on—with the constant ratio of 2. The semitone-ratios of the tempered scale, therefore, must also form a geometrical progression of twelve terms *within* each octave. Since 2 is the constant ratio of the octave series, the constant ratio of the semitone series must be that quantity which multiplied into itself twelve times will make 2—that is, the twelfth root of 2. Fortunately my desert island afforded an article of furniture not often found in such places—a table of logarithms. With its help I soon worked out the series of ratios shown on the left-hand margin of plate 4 and in table 1 below. For convenience in plotting, and to get rid of a decimal place, 10 rather than 1 was assumed as unity. The computation covered two octaves—twenty-four semitones—with numerical values ranging from 10 to 40, providing compass enough for any ordinary speaking voice in experiments such as these.

The earlier scheme, it will be recalled, was concrete and practical, based on a series of numbers derived from actual measurements. This new scheme was begun with an ideal series of ratios, and I proceeded to work it out as an ideal scheme to the end, leaving to a later stage the question of its adjustment to concrete cases. So dealing with it, the problem of interpolation referred to above became a problem of finding the places, within this ratio-series, of the natural numbers from 10 to 40. The ratios are mostly decimal, though 10, 20, and 40

at the octave points are integers, and two others, at the fifth below in each octave, differ but infinitesimally from 15 and 30. Five numbers were thus located at the start, and the particular space within which each one of the other numbers must be located was plainly disclosed. Their exact positions, however, were not so easily determined. The method of proportional parts was first tried, and it furnished an approximation sufficiently close to serve the purpose immediately in view. Indeed, that was the method used in plotting the "tones" of Chinese speech.¹¹

Here I should have stopped. But the "pagan curiosity" with which I am sometimes reproached drove me on. There must be a *real* solution to a mathematical series so wonderfully strict and symmetrical; and I must find it. Nevertheless I groped long in darkness before light broke upon me at last one morning as I awoke out of sleep. If I were to plot the curve of those semitone ratios, the levels at which the curve cuts the vertical unit-lines would be the true location of the integral numbers. Without delay I set myself to work. The result is shown in plate 4, figure 1, where the vertical distances (ordinates) of the integer levels may be read directly from the millimeter divisions of the paper.

Even so I was not satisfied. The solution was perfect of its kind, but the kind was instrumental and mechanical—not of pure science. I marvel now at my infatuation with the problem, but still more at my stupidity. Long before this, in computing the semitone-ratios, I had used—without recognizing it or so formulating it—the equation $y = a^x$, wherein a is $^{12}\sqrt{2}$, and x is in turn each of the numbers of the natural series from 1 to 24. But the equation is really one of *two* variables. All that I now needed to do was to turn the equation about and solve it for the values of x when, a remaining constant, y is in turn each number of the natural series from 10 to 40. This all the time being within my reach, and with the diagram fully drawn and under my eyes, it was weeks before I recognized in it the solution I was seeking. Thus at last my calculus, fifty years out of mind, came back to me and laid the uneasy demon that so long had plagued me.

The distortion of figure, in so far as it arose from the unequal spacing of the semitone intervals, was now completely corrected by respacing unequally the numbered levels of pitch in such a way that

¹¹ Cf. plate 3, from a chart first published in Proceedings of the American Philological Association, XLV, page xlv, with abstract of the paper read. The paper was subsequently published in full in the Journal of the Royal Asiatic Society, North China Branch, August, 1915.

their intervals diminished from above downward just fast enough to leave the semitone intervals equal throughout the chart. Still another element of distortion, however, lurked in the equal horizontal spacing which was adopted at the start. The spaces there *ought* to vary also, for they represent the time-intervals between successive points in the record, and these vary of course with the pitch. It was some time, I am ashamed to say, before it became clear that the very same measurement which I plotted vertically as pitch, gave me also, in its aspect as time, the measure of forward movement. The single measurement, that is, gives both co-ordinates of the plotted point—a most unusual and surprising thing.

It must not be supposed, however, that the whole of the measurement-number must be taken as the increment of advance. To do so would be to flatten the figure almost beyond recognition. All that is necessary is that the increment in each case be proportional to the number representing pitch. Some constant fraction of that number—say one-half or one-third—will suffice to give the figure the necessary spread.

Reviewing now the discussion so far, we see that the general scheme for plotting inflections of the voice involves two dimensions, each with a different system of spacing. In the scheme as originally worked out, there was an error of distortion in each of these two dimensions, due to the equal spacing which was tentatively adopted in each. In the readjustment of the scheme described above both errors have been eliminated by substituting for the equal spacing in each dimension a spacing graduated proportionally to the measurement-numbers—inversely proportional in the case of the vertical intervals; directly proportional in the case of the horizontal. Inflections so plotted are capable of strictest comparison in all their features both with each other and with the records. It is difficult, moreover, to see how any other systematic error can creep in, for there are but these two dimensions in which it could operate, and but the one door of measurement by which it could enter.

The revised scheme, as has been noted, is not built upon actual measurements, as was the first one, but upon an ideal system of abstract numbers or ratios, on the one hand, and of positions determined by these, on the other. It is, moreover, limited to two octaves, a compass which includes the extreme range of voice in ordinary speech. The special advantage of such a scheme is that, being ideal,

it is capable of being adapted without difficulty to any concrete case. The essential feature of the plot (that is, the spacing of the numbered levels of pitch) is arranged once for all, and is never to be changed. Adjustment has to do only with the numbers which are attached to these levels, and it may be accomplished in either of two ways: (a) the numbers of the scheme may be raised to meet the actual measurements by use of a suitable multiplier, or (b) the measurement-numbers may be reduced by division to the dimensions of the scheme. There is little to choose between the two methods, save that there is probably less chance of mistake or confusion if the plotted scheme of numbers be kept unchanged, and the particular voice or the particular measurements be reduced to the standard, just as all barometric readings, for purposes of comparison, are reduced to sea-level. The whole process may be made clear by means of the following example together with its illustration in figure 2 of plate 4.

In table 3, column 2 (p. 207), are given two series of measurements made in the course of my experiments with the "tones" of Siamese speech. The two are taken almost at random from my notes, and represent respectively the rising and the falling inflection. The measurements are of groups of six waves throughout. The extreme measurements are 30 and 110—a large compass of voice, falling only a little short of two octaves. The smallest number in our scheme is 10. The measurements may therefore be reduced to standard by dividing them throughout by 3. The results of the reduction are tabulated in column 3, and these are the figures to be used in the plotting.¹²

In table 2, column 1, are given the numbers attached to the levels of pitch in our scheme; and opposite these in column 2 are given the ordinates of those levels, that is, the vertical distance of each measured from the starting-point at level 10 at the top of the sheet. These ordinates are the results of the computation described above (p. 204).

We turn now to the co-ordinate paper on which the inflections are to be plotted. Vertically it should have twenty-four unit spaces—one for each semitone of the two octaves. Horizontally, the eighteen unit spaces usually found in the millimeter sheet will be ample for all needs.

Beginning at the upper right-hand corner, we number each unit-line along the margin from 0 at the top to 24 at the bottom. This marking has nothing to do with the final plot and is not absolutely

¹² In many cases it may be found simpler to perform the reduction by multiplying and pointing off one decimal place. Thus, if the extreme measurements had been 27 and 95, we might have multiplied by 4 and pointed off thus: 10.8 and 38.0.

We come now to the actual plotting. Referring to table 3 for the reduced measurements (in column 3) we take the first one, 18.7, and enter it with a pencil-dot slightly above level 19 traced across the chart. Taking the next number, 18.3, we note its place just below level 18; and finding in column 4 its horizontal interval, 9 (one-half of 18.3), we enter the second point at the level ascertained, and 9 millimeter spaces to the right of the first. The third point is again on level 18.7, and 9 mm. to the right of point 2. This process is continued until the series ends with point 18 at level 10, 126 mm. from the left-hand edge. Through this series of points a smoothly curving line is carefully drawn, which constitutes the figure or pattern of movement executed by the voice in that particular utterance.

The plotting of the second series of measurements is carried out in the same way, and on the same sheet. Lastly, concert-pitch is found from the record of a C-fork taken at the same time with the other records, which in this case determines the level of C as 17.6, that is, near the 10th unit-line from the top. From this datum the places of the other notes of the musical scale are easily determined by assigning one unit-space to each semitone.

This study demonstrates the immense superiority, in point of delicacy, of instrumental analysis over the trained ear. In plate 3, tone 1, are shown five examples of the utterance of the same short syllable in succession. The pitch was intended to be a perfectly level tone. The serpentine oscillations which our analysis reveals entirely escaped the sense of hearing, as did also the uncertainty of attack and finish, and the hesitation in mid-movement exhibited in many examples of other tones given in the same chart. In figure 3 of plate 5 may be seen the vagaries of a singer's voice in rendering C natural—a continual wandering away from pitch followed by attempted correction and return. The ear fails utterly to detect errors of this dimension, for the whole portion of the note here shown on the chart occupied but 1.08 of a second of time. The instrument reveals even minute variations in the rate of a tuning-fork due to infinitesimal variations in the drag on the prongs of the fork as the recording point sweeps the surface of the paper.

Transmitted April 3, 1916.

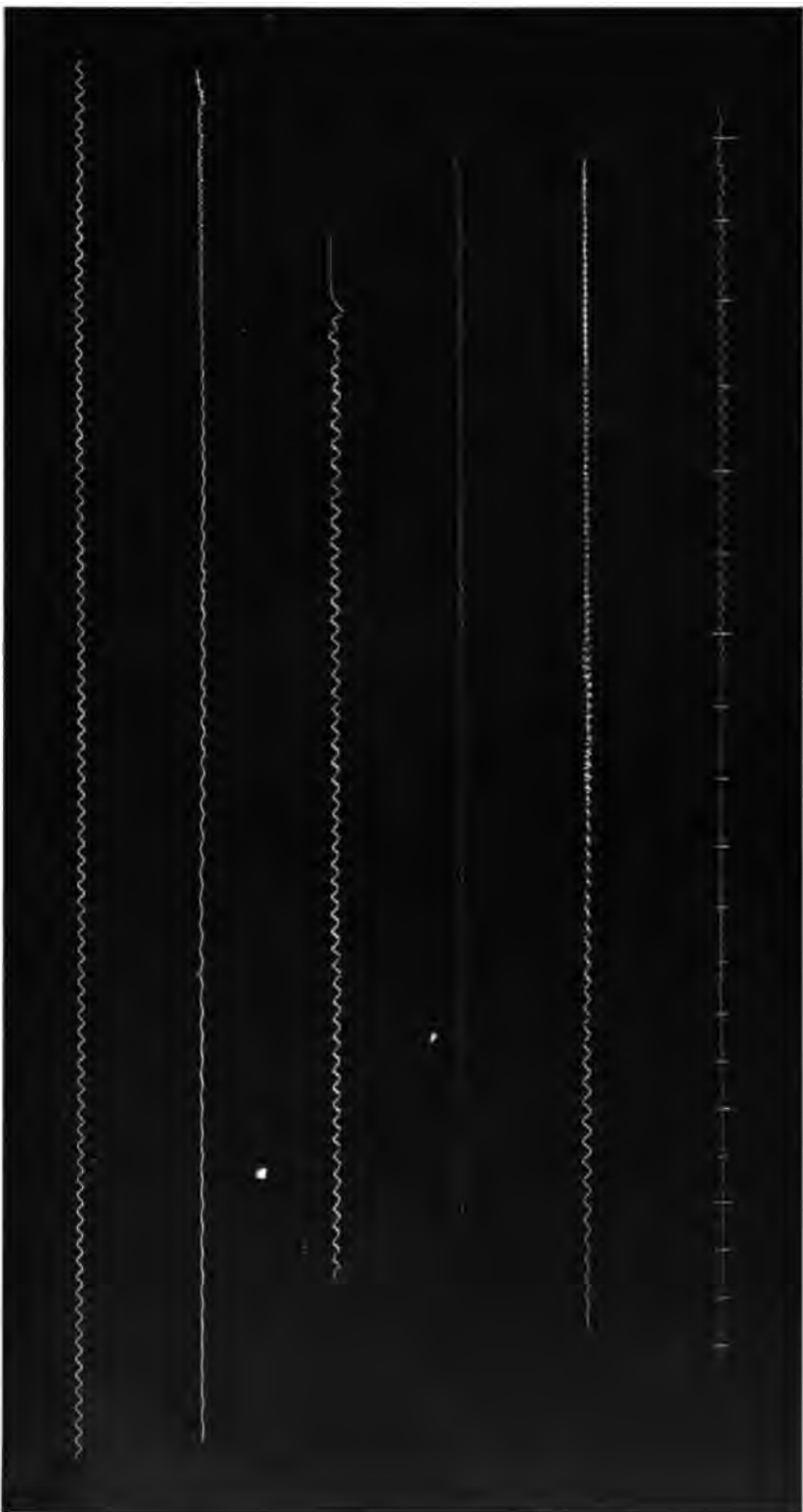
EXPLANATION OF PLATE 1

Specimen records taken with the Rousselot apparatus, reduced to three-fourths of their original dimensions.

Numbers 1 to 5 are records of the five "tones" of long vowels in Siamese speech, namely, 1, Rising; 2, Circumflex; 3, Middle; 4, Depressed; 5, Falling. No. 1 has been marked off into groups of waves for measurement. Number 6 is the record of an electric tuning-fork making 100 vibrations per second.

The general features of movement and pitch which characterize these five "tones" are shown in plate 2; and a brief indication of the part they play in actual speech is given in the explanation of that plate. For an account of the way in which the records are made, see footnote 1, pp. 196-197.

The extreme delicacy of which these records are capable is shown in the case of the electric fork, the rate of which would naturally be supposed to be absolutely uniform within the limits of a single record. But measurement shows that the rate varied during the fraction of a second of time occupied in the process. The first forty waves of the record together measure two one-hundredths of an inch more than the last forty. This infinitesimal variation is probably due to infinitesimal differences in the drag of the recording point as it swings from side to side on the surface of the paper.



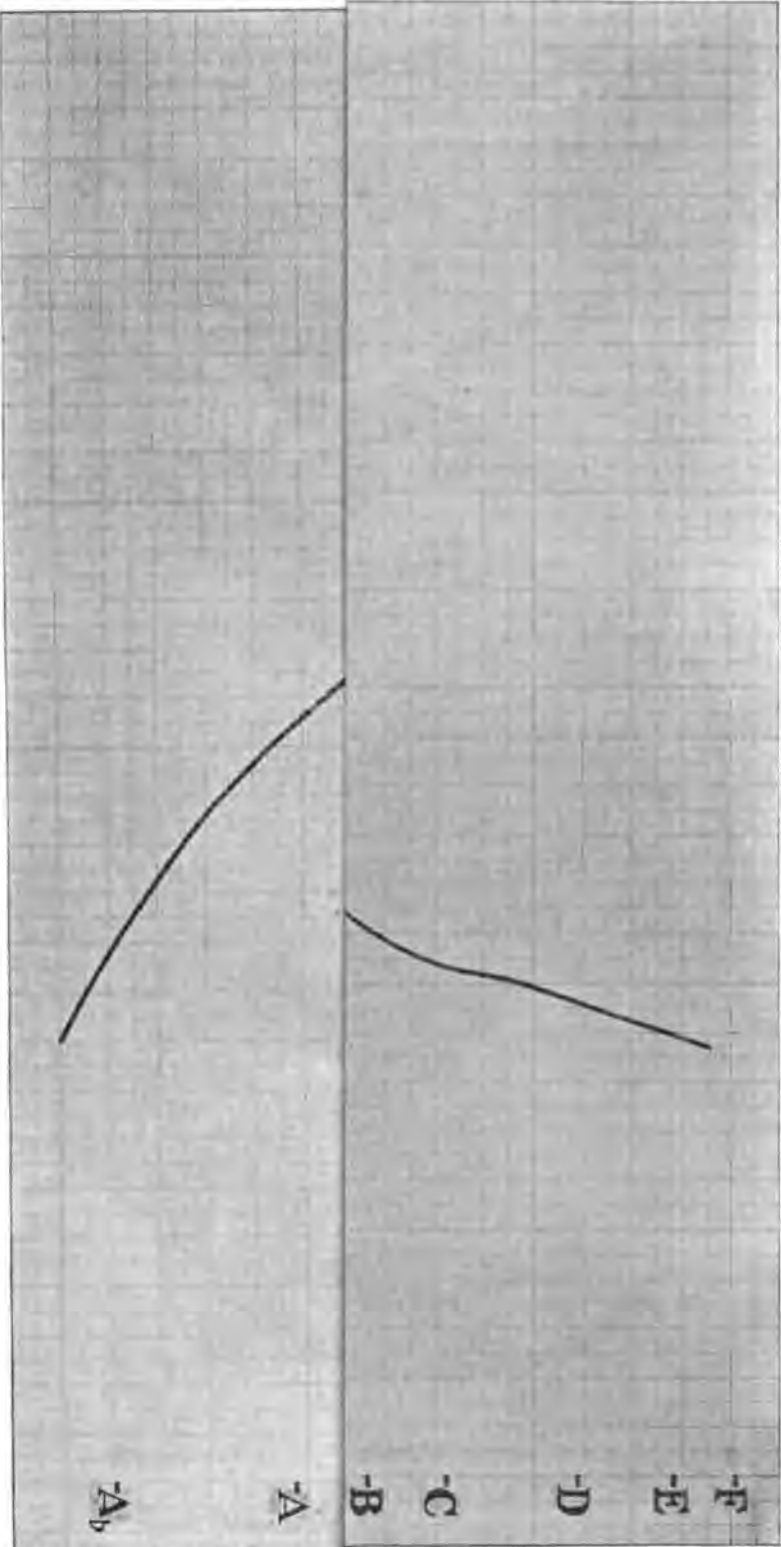
EXPLANATION OF PLATE 2

Chart of the five "tones" of long vowels in Siamese, illustrating the earlier scheme of plotting.

So far as known to the writer, this is the first attempt ever made to plot from actual measurements the inflections of the voice. It was made in November, 1908, and was exhibited at a meeting of the Siam Society held in Bangkok on February 2, 1909.

The figures here shown were plotted from records of the writer's voice as he pronounced the one syllable *nā* with the five modes of voice-inflection distinguished by the Siamese in their utterance of long vowels. The one syllable so uttered becomes five different words, which to the natives do not seem to be homophones at all, but as clearly different as seem to us the words *bate*, *beat*, *bite*, *boat*, *boot*, which differ only in vowel quality. The meaning of the five Siamese words, differing only in tone, are as follows:

<i>Syllable</i>	<i>Inflection</i>	<i>Meaning</i>
<i>nā</i>	rising	<i>thick</i>
	circumflex	<i>uncle or aunt</i>
	middle	<i>rice-field</i>
	depressed	<i>indeed</i>
	falling	<i>face, front</i>

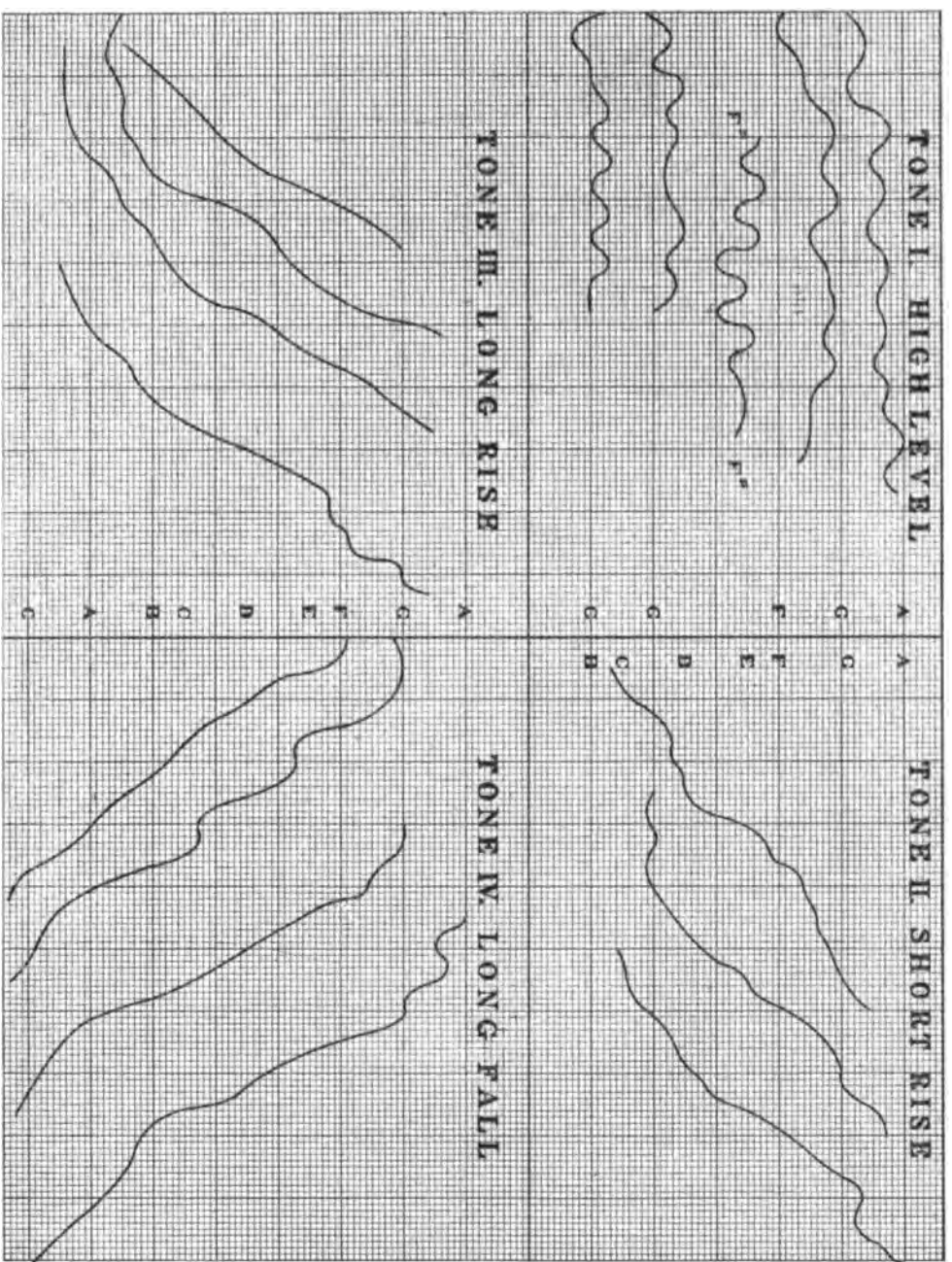


EXPLANATION OF PLATE 3

Chart of the "tones" of Pekingese.

In this chart the vertical distortion noted in the earlier scheme was corrected by giving to the levels of pitch a graduated instead of a uniform spacing. It has a further interest in its revelation of surprising eccentricities or inaccuracies in the performance of the human voice. Tone 1, for example, is heard by the ear as a tone perfectly level in pitch. Its serpentine oscillations completely escape notice by the ear, as do also the uncertainty of attack and the hesitation in execution noticeable in many other figures of the chart.

Pekingese scholars claim four separate "tones" for their dialect. But the chart would seem to show that there are really but three. The general figure or pattern of "tone" 2 is identical with that of "tone" 3, and instrumental analysis fails to discover within the range of examples available any constant difference of detail which the ear could detect as a basis of distinction. It may be that there is a difference in vowel-quantity which does not appear in the examples chosen.



EXPLANATION OF PLATE 4

Figure 1.—The semitone-ratios and the levels of pitch.

The semitone-ratios are a series of numbers which express the relative time of vibration at the pitch of each semitone of the octave, when the vibration-time at the pitch of C is 10. These ratios, computed for two octaves, are shown at the left-hand margin of the chart, each on its unit-line. The ratios, it will be noted, are nearly all decimal. The problem is to find the precise levels within this decimal series at which the integers 11, 12, 13, etc., are to stand. The problem was solved graphically as follows: Each ratio (less 10, because we begin at the margin with 10) was plotted on the chart as a horizontal line. Through the ends of these lines a curve was drawn. The points in which this curve cuts the vertical unit-lines will mark the true levels of the various integral numbers. The vertical distance (ordinates) from 0 at the top of the chart to each of these levels may be read directly from the co-ordinate paper. The ordinates actually entered on the chart are those derived from a subsequent computation, and are carried out to one decimal place.

Figure 2.—Illustration of the perfected scheme for plotting inflections without distortion in either dimension. aa is the figure of a rising inflection, and bb the figure of a falling inflection so plotted. For the data used and for detail of the method see table 3 and the adjacent text, p. 207, *ante*.

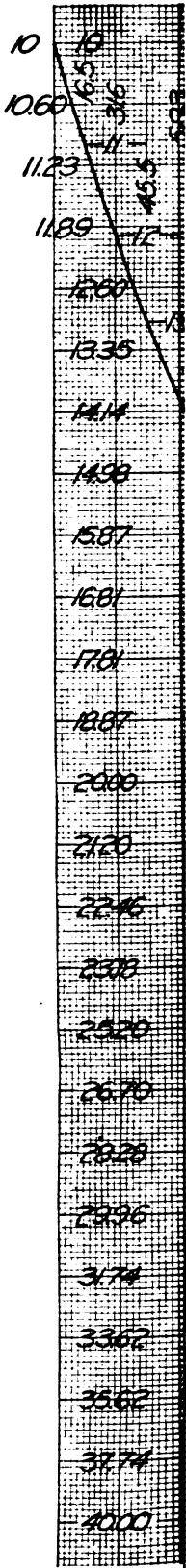


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EXPLANATION OF PLATE 5

Figures 1 and 2.—Direct comparison of the two schemes of plotting.

Figure 1 is the rising inflection (aa) and the falling inflection (bb) as originally plotted in plate 2. Figure 2 shows these same inflections replotted according to the perfected scheme. Comparison shows that aa of figure 1 is shorter and flatter and shows a greater time-dimension than does the corrected aa of figure 2, while bb of figure 1 is deeper, steeper, and has less time-dimension than the corrected bb of figure 2.

Figure 3 is a representation of the performance of a singer's voice in rendering the C natural of a tuning-fork. It illustrates the same vagaries, the same uncertainties and attempted corrections which were shown in the case of the speaking voice in plate 3.

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February 24, 1917

TÜBATULABAL AND KAWAIISU
KINSHIP TERMS

BY
EDWARD WINSLOW GIFFORD

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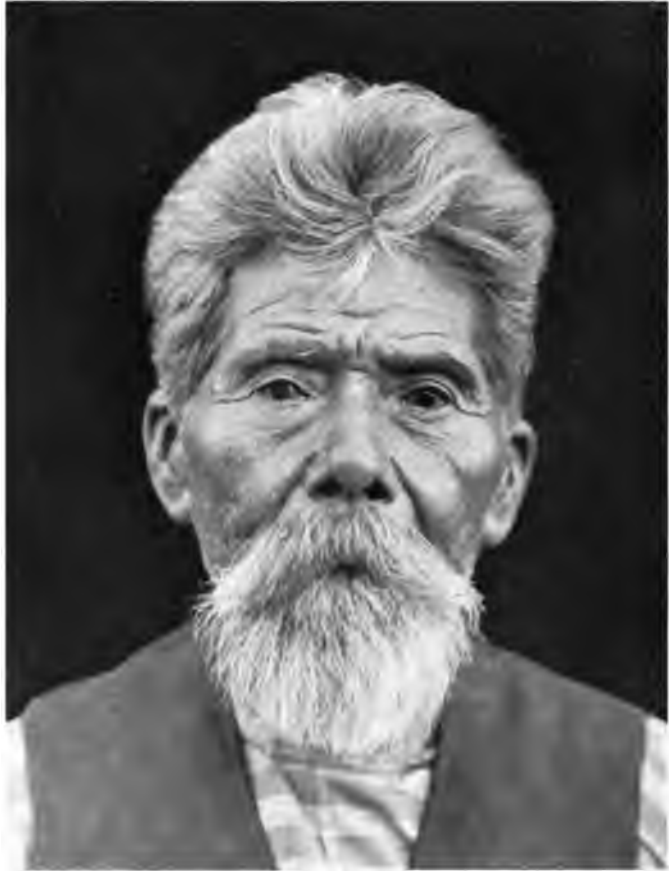
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THOMAS WILLIAMS, OF JAMESTOWN
CENTRAL SIERRA MIWOK
Narrator of Stories nos. 1-11

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MIWOK MYTHS

BY
EDWARD WINSLOW GIFFORD

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INTRODUCTION

The fourteen stories presented in this collection were secured during 1913 and 1914 among the Central Sierra Miwok of Tuolumne County, California. Three, which are exceedingly brief, were told by William Fuller of Soulsbyville. The remaining eleven were obtained from Thomas Williams of Jamestown, whose picture appears in plate 6.

All are sentence-by-sentence translations into English of myths which were recorded in Miwok on the phonograph.

These stories were formerly related at night in the circular assembly houses of the Miwok. Certain men versed in the myths often

travelled from village to village telling the tales in the assembly house of each village. Such a raconteur was known as an *utentbe*, a name derived from *utne*, a myth. Each *utentbe* was paid for his services, his audience presenting him with baskets, beads, furs, and food. Thomas Williams, who was formerly an *utentbe*, said that the telling of a myth often took all night. Not infrequently the myth was chanted. Each myth, whether chanted or told in ordinary prose, was accompanied by the songs of the various characters. For example, with the story of Prairie Falcon's Marriage belong three songs, one sung by Prairie Falcon, one by his wife, and one by his father.

A comprehensive collection of Miwok myths, including a number from the Central Sierra Miwok, has been published by Dr. C. Hart Merriam.¹ Stephen Powers includes three Miwok myths in his "Tribes of California."² Dr. A. L. Kroeber has printed a number of Southern Sierra Miwok myths.³

STORIES BY THOMAS WILLIAMS

1. THE THEFT OF FIRE

The Black Geese asked the White Geese to help them. They gathered in the assembly house.

Lizard lay on top of the rock and looked into the valley. It was then that he found the fire. He saw the flames issuing from the smoke hole in the top of a large assembly house. Then Lizard told Coyote that he saw the fire below. Coyote doubted him. Lizard said, "Come up here on top of the rock, look below, and you will see sparks coming from the assembly house." Coyote asked, "Where do you see the fire? I see no fire in that direction." Then Lizard said, "Watch. There goes another spark." Coyote said to the Geese, "It is strange that we cannot see it. He saw it again." The Geese did not believe him. They said that he was deceiving them.

After sundown Coyote saw the fire, entered the assembly house, and told everyone about it. Flute-player (Mouse) said nothing. The people told Flute-player to go out and look at the fire. Flute-player merely said, "Yes." He took with him four flutes, but told no one

¹ *The Dawn of the World: Myths and Weird Tales told by the Mewan Indians of California*, A. H. Clark Co., 1910, Cleveland, O.

² *Contrib. N. Am. Ethn.*, III, 358, 366, 367, 1877.

³ *Indian Myths of South Central California*, Univ. Calif. Publ. Am. Arch. Ethn., IV, 202, 1907.

when he left. He played two flutes while he journeyed into the valley. When he arrived at the assembly house in the valley, he did not know how to enter. Bear, Rattlesnake, and Mountain Lion guarded the door, so that none might enter. Flute-player climbed on top of the assembly house. There he found Eagle with his wing over the smoke hole, so that none might enter. Eagle, however, slept. Flute-player was puzzled, for he did not know how to enter the house undetected. Finally, he cut two feathers from Eagle's wing and thereby entered.

When he descended into the assembly house, he found the people asleep. He went to the fire and filled two of his flutes with coals. Again he visited the fire, filling two more. He filled four flutes with the fire.

Then he started for home. All of the people awoke and looked for him. They ran all over the hills, but did not find him. Eagle sent in pursuit Wind, then Rain, then Hail. Hail caught flute-player. Flute-player, however, placed his flutes in the water before Hail caught him. He told Hail that he had nothing. He said that he would take no one's fire. Hail believed him and departed.

Flute-player then recovered his flutes and played upon them after Hail departed. He still had his fire. He said to himself, "I have my fire."

Finally, he arrived at home, arrived with his fire in the four flutes. Coyote came down the mountains to search for him, for he feared that someone had killed Flute-player. Flute-player sent Coyote back ahead of him to tell the people that he was returning with the fire. Coyote ran back and told the people to gather wood, told them that Flute-player was bringing the fire.

Flute-player proceeded slowly, so that Coyote, becoming impatient, went to meet him again. He met him when he was nearly home. Upon his arrival, Flute-player climbed on top of the assembly house. Then he played his flute. Everyone inside was cold. When Flute-player finished playing one flute he dropped coals through the smoke hole into the assembly house. Then he started to play a second flute. Before he finished playing the second one, Coyote interrupted him by shouting. Coyote told Flute-player to continue playing.

The people in the middle received the fire; the others received but little fire—the north people, the south people, the east people, and the west people. The west people did not talk very distinctly, because they received so little fire; the east people the same; the north people the same; the south people the same. Those who were close to the

fire talked distinctly. Coyote, who stayed at the door, received but little fire. He tried to talk, but shouted instead.

The people in the middle cooked their food. The others ate theirs raw. They talked different languages from the people in the middle. The west people talked differently; the south people talked differently; the north people talked differently; the east people talked differently. The middle people talked correctly, for they were around the fire. The people who were around the fire cooked their food. The people in the middle obtained the acorns and the manzanita. The others had nothing to eat. That which they ate was always raw. It was Coyote's fault, that the others talked incorrectly. If Coyote had said nothing, all would have received fire. He spoiled the scheme, when he shouted at Flute-player, for Flute-player stopped. He stopped before he had played the fourth flute and before he had distributed all of the fire.

All of those who received the fire talked the same language. All of those who were close to the fire had the same language. Some received the fire. Some did not receive it. That is why they did not speak the same language.

If Lizard had not found the fire, all would have died. He found the fire and saved the people. Lizard found the fire below. Flute-player went below to steal the fire to save the people from death. Coyote shouted to Flute-player to drop one coal in front of him. Then he dropped the coal and one went without fire. All of the middle people understand each other. The others do not hear one another very plainly. They would all have talked correctly, if they had all received fire. The people fought each other, because they did not understand each other's speech.

[The assembly house of the valley people was upon the west side of the San Joaquin River. The assembly house of the Geese was at Goodwin's Ranch, near Montezuma, Tuolumne County.]

2. BEAR AND THE FAWNS

"Sister-in-law, let us get clover. I like clover," Bear said to Deer. Then Deer replied, "Yes, we will eat clover." Bear said, "We will leave these girls (Fawns) at home. They always follow you." She told the Fawns, "We go to eat clover. Clover is high enough to eat now, I think. You girls stay at home until we return."

Bear said to her sister-in-law, "Let's go. We will be back to-night." Then they went below to eat clover.

After they had gone below, Bear said, "Let's sit down and rest." Then she continued, "Examine my head, examine my head. I must have lice on my head." Deer replied, "Yes, yes, come here and I will look for lice." Then she found lice on Bear's head. She found large frogs on Bear's head. When she found the frogs, she picked them off and threw them away. Bear asked her, "What is it that you throw away? Are you throwing away my lice?" Deer replied, "No, you hear the leaves dropping." Bear said, "Take them all out. I have many lice."

Then Deer removed them all. Bear asked, "What are you throwing away?" Deer replied, "I throw away nothing. You hear pine cones dropping from the tree." Bear said, "I think that you throw away my lice." Deer retorted, "No, those are pine cones dropping from the trees."

"Remove them all, then," said Bear; "remove them all. My head feels light, since you have finished picking the lice from it." Deer threw away the frogs, threw away large frogs.

Bear said to Deer, "Let me examine your head." Deer said, "All right." Bear examined Deer's head and said, "There are many." Deer's lice were wood-ticks and Bear proceeded to take them from Deer's head.

Then Bear said, "There are many. I do not think I can get them all by picking. You have many. Let me chew these lice and your hair with them. That is the only way I can remove them. You have many lice. I do not think that I have removed them all. There are many. Stoop and I will chew your hair. Do not be afraid. Stoop and let me try."

Then Deer stooped. She thought Bear's intentions were good. Bear examined her hair for a while, and then chewed. Instead of chewing Deer's hair, Bear bit her neck, killing her.

Bear ate all of Deer, except the liver, which she took home. She placed the liver in a basket and put clover on top of it. Then she went home. She proceeded homeward after sundown, carrying the clover in the basket with the liver in the bottom of the basket.

Arriving at home, she told the Fawns to eat the clover. She said to them, "Your mother has not come yet; you know she is always slow. She always takes her time in coming home." Thus spoke Bear to the Fawns, when she arrived at home.

The Fawns ate the clover. After they had eaten it, they saw the liver in the bottom of the basket. The younger one found it. She

told the older one, "Our aunt killed our mother. That is her liver." The older Fawn said to her younger sister, "Our aunt took her down there and killed her. We had better watch, or she will kill us, too."

They continued to eat the clover after finding the liver. Then the younger one said, "What shall we do? I fear she will kill us, if we stay here. We had better go to our grandfather. Get ready all of our mother's awls. Get all of the baskets. Get ready and then we will go. We will go before our aunt kills us. She killed our mother. I think it is best for us to go."

"Do not forget to take the awls," said the older Fawn, for she was afraid of being overtaken by Bear. The Fawns started with the baskets and awls, leaving one basket behind. Their aunt, Bear, was not at home when they left. When she returned, she looked about, but saw no Fawns. Then Bear discovered their tracks and set out to follow them. After she had tracked them a short distance, the basket, left at home, whistled. Bear ran back to see if the Fawns had returned. In the meantime the Fawns proceeded on their journey, throwing awls and baskets in different directions. Again, Bear started from the house. As she proceeded the awls whistled. Bear, thinking that the Fawns were whistling, left the trail in search of them.

The Fawns said, "We go to our grandfather."

As Bear followed them along the trail, the baskets and awls whistled and delayed her. Whenever Bear heard the whistles, she became angry and ran in the direction from which the sound proceeded. She of course saw nothing and returned to the trail. She heard a whistle in the direction of the stream. She ran toward it, but when she arrived there, saw nothing.

When she did not find the girls she became angry. She said, "Those girls are making fun of me." Then she shouted, "Where are you, girls? Why don't you meet me?" The awls only whistled in response and Bear ran toward the sound. Then she became still angrier and said to herself, "If I capture you girls, I will eat you. If I find you girls, I will eat you."

Bear continued to track the Fawns. She found the trail easily and saw their tracks upon it. She said, "I have found the marks that will lead me to them." She followed the marks upon the trail. "If I catch them, I shall eat them." She heard more whistling and that enraged her. Then she jumped on to a tree and bit a limb in two. It made her furious to hear the whistling. She said to herself, "If I ever catch those girls, I shall eat them." The baskets continued to

whistle on both sides of the trail, making her very angry, and retarding her progress. The Fawns had many baskets.

They followed the long trail until they arrived at a river. Bear was far behind. On the opposite side of the river they saw their grandfather, Daddy Longlegs. They told him that Bear had eaten their mother and that they wanted to cross the river in order to escape from her. Their grandfather extended his leg across the river so that they might walk across on it. Then they crossed on their grandfather's leg. In the meantime Bear continued to track them. She still followed false leads because of the whistling of the baskets and awls. The following of false leads delayed her.

The Fawns said to their grandfather, Daddy Longlegs, "Let her cross the river. She follows us." Bear was still coming along the trail. The baskets, the soap-root brushes, and the awls continued to whistle, causing her delay. The Fawns had many baskets, soap-root brushes, and awls.

After the Fawns had crossed the river, Bear arrived at the bank. She asked Daddy Longlegs, "Did the girls come by this place?" He replied, "Yes." Then Bear told Daddy Longlegs, "The girls ran away from me." Daddy Longlegs asked, "Where is their mother?" Bear replied, "Their mother is sick. That is why she did not come, and that is why I seek the girls. She told me to bring them back."

Bear then asked Daddy Longlegs to put his leg across the river, so that she might cross. He said, "All right," and stretched his leg across the river. Then Bear walked on Daddy Longlegs' leg. When she reached the middle, Daddy Longlegs gave a sudden spring and threw her into the air. She fell into the river, and had to swim to the opposite shore.

She found again the track of the Fawns. Wherever the track was plain she ran rapidly to make up for the time lost. The numerous awls, which the Fawns had thrown to each side of the trail, whistled as before.

"Hurry, sister, we near our grandfather's (Lizard's) house," said the older Fawn to the younger. Bear became exceedingly angry and shouted in her rage.

"Hurry, she comes; hurry, sister, she comes. We would not like to have her catch us before we reached our grandfather's," said the older Fawn. Then the Fawns threw awls and baskets to each side of the trail anew. As they approached their grandfather's house, Bear gained upon them. As Bear saw them nearing their grandfather's she shouted again in her anger.

The Fawns at last arrived at their grandfather's assembly house and asked him to open the door. The grandfather told the Fawns, "My door is on the north side of the house." The Fawns ran to the north side, but found no door. Then they called again, "Hurry, grandfather, open the door." He said, "My door is on the east side of the house." Then they ran to the east side, but found no door. Then they ran around the house. They found no door. They called again to their grandfather. He said, "My door is at the top of the house. Come in through the top."

The Fawns climbed to the top of the house and entered through the smoke hole. Their grandfather asked why they had come to see him. The Fawns told him, "Bear killed our mother." The grandfather asked, "Where is Bear?"

The Fawns said, "Bear took our mother down to the clover. She ate mother there. Then she returned to the house and told us to eat the clover which she brought. While we were eating the clover from the basket, we found the liver of our mother in the bottom under the clover, found our mother's liver at the bottom of the basket. The clover was on top of it." Thus spoke the Fawns to their grandfather. He asked them again, "Where is Bear?"

The Fawns replied, "She follows us. She comes. Yes, she comes."

Then Lizard, their grandfather, threw two large white stones into the fire. The Fawns sat by and watched him while he heated the two white stones. While he heated the stones, Bear came. She had followed the tracks of the Fawns to their grandfather's assembly house. Bear said to herself, "I think they went to their grandfather's." Meanwhile Lizard heated the white stones.

After looking around the assembly house, Bear called to Lizard, "Did the Fawns come here?" Lizard said, "Yes. Why?" "Well, I wish to take them home," said Bear. Lizard asked, "Why do you wish to take them home?" Then Bear replied, "I wish to take them home to their mother. Where is your door?"

Lizard told her that the door was on the north side of the assembly house. She ran to the north side, but found no door. She called again, "Where is the door?" "It is on the west side of my assembly house," said Lizard. Bear was very angry, but she ran to the west side of the house. She found no door there, so she asked again. Lizard said, "It is on the east side of my assembly house." Again she found no door, and she became exceedingly angry and asked him crossly, "Where is the door?" Lizard replied, "Run around the

assembly house and you will find it." She ran around the house four times, but to no avail. In more of a rage than ever, she asked Lizard, "Where is your door?" Then Lizard told her that it was at the top of the assembly house. Bear climbed to the top and found the opening.

Upon finding the opening, she shouted and said, "I shall eat those girls." Lizard only laughed. Bear asked how she should enter. Lizard said, "Shut your eyes tight and open your mouth wide, then you enter the quicker."

Bear shut her eyes tight and shoved her head through the smoke hole with her mouth wide open. Lizard called to her, "Wider." Then Lizard threw those two white stones, which he had heated, and threw one of them into her mouth. It rolled into her stomach. He threw the second one. It remained in her mouth. Bear rolled from the top of the assembly house dead.

Lizard told his granddaughters, "She is dead." Then Lizard went outside and skinned Bear. After skinning her, he dressed the hide well. He cut it into two pieces, making one small piece and one large piece.

He gave the large hide to the older Fawn and the small hide to the younger. He said to them, "Take care of those hides." Then he told the older Fawn to run and discover what sort of a sound the hide made when she ran. The older Fawn ran and the sound was very loud. Then Lizard told the younger Fawn to run. Her hide made a fairly loud sound, but not so loud as that of the older Fawn.

Old Lizard laughed, saying, "The younger one is stronger than the older." Then he told them to run together. He pointed to a large tree and told them to try their strength against the tree. The older one tried first. She ran against it, splintering it a little. Then the younger girl ran against the tree at its thickest part. She smashed it to pieces.

Lizard laughed again and said, "You are stronger than your sister." Then he told both to run together. They ran about and kicked the tree all day long. Lizard returned home and, upon arriving there, said, "The girls are all right. I think I had better send them above."

The Fawns said to Lizard, "We are going home." Lizard asked them not to go. He said, "I shall get you both a good place. I am going to send you girls above." Then the girls went up. They ran around above and Lizard heard them running. He called them

Thunders. He said, "I think it is better for them to stay there. They will be better off there." Lizard closed the door of his assembly house. Rain began to fall. The girls ran around on the top, and rain and hail fell.

3. YAYALI, THE GIANT

The Giant walked from below. He shouted as he journeyed up the mountain, shouted all of the way. He shouted to the people as he searched for them, shouted all around the hills.

Chipmunk answered him. Chipmunk told the people that someone was coming up the mountain shouting. "Perhaps he comes to tell us something," said Chipmunk. "I shall meet him." Chipmunk said to his wife, "I think your brother comes. I shall meet him, for I think he comes."

It was raining heavily when Chipmunk went to meet the newcomer. Chipmunk called to him, "Come, tell us who you are." The Giant answered Chipmunk by saying, "There is my meat." Chipmunk again answered the Giant's call, for he thought that his brother-in-law was coming.

Chipmunk at last realized that the newcomer was not his brother-in-law, and he said to himself, "I have found someone. I have met someone. He is not my brother-in-law." When Chipmunk saw the burden basket on the back of the Giant, he knew that he was not his brother-in-law. Chipmunk said to himself, "I do not think I will go anywhere now. I do not think I will be able to reach home." Just then the Giant approached him and asked him where he was going. Chipmunk replied, "My assembly house is over there." The Giant said, "Go ahead and I will go with you."

Upon arriving at the house, Chipmunk told the Giant to enter ahead of him, while he obtained wood and built a fire. The Giant insisted, however, that Chipmunk take the lead, saying that he was not a member of the family. "You are the owner of the house," said the Giant. "You lead into your own house. I am not the owner of it." Chipmunk demurred and asked the Giant to go ahead. "Take the lead, or you will freeze," he said to the Giant. "You have been in the rain and have become wet. I will build a fire for you."

Chipmunk's insistence was of no avail. Again the Giant said, "You take the lead. You are the owner of the house." Then Chipmunk, to save further argument, led the way into the house. The

Giant followed him. As they approached the door, the Giant reached into his basket, securing a stone. He threw the stone at Chipmunk, striking him on the back and killing him.

After he had killed Chipmunk, the Giant told Chipmunk's wife to help him bring in the meat. He then made himself at home and married Chipmunk's widow. He cooked Chipmunk, the owner of the house, whom he had killed. He told his new wife to eat of Chipmunk's flesh after he had cooked it. She said, "You eat it." The Giant insisted, "You eat it, you eat it."

After the Giant left the house, his wife (Chipmunk's widow) dug a hole in the ground. She placed in the hole her daughter by Chipmunk. She fed the little girl with deer meat.

The Giant returned at sundown. He had in his basket many people, whom he had killed. When he entered the house, he said to his wife, "We will not starve. We have plenty of meat." The woman told the Giant to eat the human flesh himself. She cooked deer meat for herself. She ate the deer meat. The Giant ate the people whom he had killed.

The Giant's wife cooked deer meat, with which she fed her daughter, whom she had hidden in the pit. She did not wish the Giant to see her daughter, for fear that he might eat her.

As the Giant departed the next morning, he said to his wife, "You have a better husband than you had before. He obtains more meat than your former husband, Chipmunk. I go now to get you more meat." He proceeded into the hills in search of more people. He told his wife before he left, that he would be back at sundown. As he departed he rolled a big boulder against the door, so that his wife might not escape. He rolled large boulders against both ends of the assembly house, and also one over the smoke hole at the top of the assembly house, where the smoke emerges. He closed the doors tightly with large boulders. After he had closed the doors, he went into the hills to capture more victims. He returned with a load of people in his basket. He had captured many large, fat people for his wife. He rolled the boulders aside and entered the house.

While he was away, his wife had cooked deer meat. The Giant wished to feed his wife upon fat people. He told her to eat the flesh of fat people. She said, "Yes," but instead she ate deer meat. The Giant thought that she ate the fat people, but instead she ate deer meat. He threw away some of the human flesh, because he could not eat it all. Again he obtained more fat people and cooked them. He

told his wife to eat the flesh of the fat people. He said, "If you do not eat them, I will kill you." He said, "I think you have a very good husband. He always obtains plenty of meat, when he hunts. He never misses a person with his stone." Again he returned with a large load of victims, whom he cooked for his wife. He cooked, and he cooked, and he cooked. When it became dark he danced. He was so tall that his head projected through the smoke hole of the assembly house.

The Giant's wife gave birth to two boy babies. Both of them were little giants. She wished to kill them, but she feared that the Giant would avenge their deaths. She fed them and they grew. All the while she kept Chipmunk's daughter in the pit. She fed her continually with deer meat. By the Giant, she bore two little giants.

When the Giant departed for the day, she took her daughter from the pit, and held her in her lap, while the two little giants slept. She cried all day, when the Giant was away. She mourned for poor Chipmunk. She feared the Giant, but she could not escape, because the boulders, which the Giant put against the doors, were too heavy for her to push away. So each day she sat in the house and cried.

"You eat them. This is the meat which I cooked for you. You eat them. This is the best one. I selected it for you." The woman replied, "Yes." Then the Giant danced. He danced. He danced. His head went through the smoke hole, when he danced. When he felt happy he danced, his head going through the smoke hole.

He told his wife, "Care for my sons. Don't lose them. Care for my sons. Do not fear hunger, for I will always bring you plenty of meat. I am always sure to obtain meat when I hunt." He went into the hills again in the morning to capture more women and boys and men. He killed everybody, old people, young people, girls, and men. He killed so many that he filled his basket in a very short time. His wife, however, had plenty of deer meat which Chipmunk had obtained for her.

Every night, when the Giant came home, he danced. After he had danced, he cooked the meat for his wife, giving her old men and old women. He took for himself the young people. When he came home, he brought pine nuts with his victims. The old white-shelled pine nuts, that were worthless, he cracked and gave to his wife, "Eat these pine nuts. Here are plenty of pine nuts. You will not become hungry, if you stay with me. Thus he spoke to his wife, when he came home each night. He said to her, "Eat these pine nuts, for I

perceive that you are hungry." His wife said, "Yes." However, she deceived him, for she did not eat the pine nuts. When he was not looking, she threw them away. She threw them away, when he was not looking. At the same time, she made believe that she ate the pine nuts. She ate only pine nuts which Chipmunk had obtained for her. She did not eat those which the Giant brought to her. Each time that the Giant went away, she ate from her own stock of pine nuts, which Chipmunk had collected for her.

The old women and the fat women that the Giant obtained, he brought to his wife; also those women who were pregnant. He said to his wife, "Eat. Eat well." His wife replied, "Yes, I am eating them." Yet all the time she deceived him.

Again he went into the hills to hunt people. He travelled all over the country in his search. When he returned, he brought a large load of people. Upon his arrival, he cooked the old women for his wife. Then he danced outside of the assembly house. Afterwards he danced inside. His wife did not eat the old women whom he cooked for her. She said, "Yes, I am eating," but she always deceived him. She worried every day, for fear that the Giant would kill her. That which he cooked for her she put into a hole, making believe, however, that she ate it. Instead, she ate deer meat. The Giant thought that she ate the persons whom he cooked for her.

The deer meat, which she cooked each day while the Giant was absent, she fed to her daughter in the pit. Each day, when she took her daughter from the pit, she cried. She felt sorry for the girl, because her father had been cooked in the fire. The thought of Chipmunk's sad end depressed her and made her cry all day, while the Giant was away. When the Giant returned in the evening, she hid her daughter in the pit. She herself lay over the pit, so that the Giant would not find her daughter. She sat over the pit, so that the Giant would not take the girl. The two sons of the Giant lay in the corners of the house. The Giant changed them from corner to corner, when he came home. The boys never cried. They laughed all the time. That is all that they did.

Chipmunk's brothers below dreamed about him. One of them said, "I think I will visit him. I will see how he fares. I dreamed that he was sick." So spoke one of Chipmunk's brothers after he dreamed about him. He told no one that he was leaving, but proceeded secretly into the mountains. He did not follow the regular trail, but went through the brush, passing through the high moun-

tains. He spoke to no one of his proposed visit. He did not hasten, but travelled slowly toward his brother's home.

At last he arrived at Chipmunk's assembly-house. He said to his sister-in-law, "I am coming. Why are these large boulders against the door?" Then his sister-in-law answered him from within, saying, "Come in. The Giant killed your brother. He closes the door with those large boulders each time he goes out." Thus did his sister-in-law answer him, when he arrived at her house.

Then he rolled aside the boulders at each end of the house. His sister-in-law said to him after he entered, "The Giant killed your brother. Just see us. There are the Giant's two sons." Her brother-in-law then inquired about her daughter. "Where is my brother's girl?" he said. The woman replied, "She is in this hole. I did not want the Giant to see her." Thus spoke his sister-in-law, when she answered him.

Chipmunk's brother asked his sister-in-law when the Giant would return. She said, "Sometimes he returns after sundown, sometimes before sundown. Today he went far and will not return until tomorrow morning."

Then her brother-in-law told her to crush some obsidian. He said, "You can go home. The Giant has many brothers. If they overtake you, and try to catch you, while you are on your way home, throw the crushed obsidian in their faces. I shall not go. I shall remain here."

She crushed obsidian and placed it on a deer hide. After she crushed it, her brother-in-law told her to start for home. He warned her especially not to lose the obsidian. "If they catch you," he said, "you can use it. Throw it in their eyes." He then proceeded to dig holes in different directions.

Following his advice she started. Meanwhile he dug holes, one toward the south, one toward the east, one toward the north, and one toward the west. He dug them so that he might conceal himself and dodge from one to the other in case he were pursued. He made holes all around the assembly house, both inside and outside. After he had finished digging the holes, he did nothing. He rested and walked about outside of the assembly house.

He thought about the Giant and wondered when he would return. He went into the hills and cut a manzanita stick, sharpening one edge of it. He worked upon it all day, making it sharp. His sister-in-law

told him to be careful with it. He asked her what the Giant did when he came home. She told him that the Giant always danced, and that every time he danced, his head projected through the smoke hole, his head projected through the smoke hole at the top of the house. Chipmunk's brother said, "All right." He finally finished sharpening the manzanita stick, making it very sharp.

Then he walked around, he walked around. While he watched the Giant came over the hill. He said to himself, "I think that is he coming now." He stood outside and watched the Giant. As the Giant approached the house, Chipmunk's brother stepped inside. The Giant saw him and said, "There is another victim. There is another victim." The Giant was glad that he had another person to kill. The Giant followed close behind him into the house.

Chipmunk's brother had killed the two young giants. He gouged out their eyes after he killed them and threw their eyes into the fire, putting one in each corner. Before his sister-in-law had left, he had asked her where the young giants kept their hearts. She had told him, "In the ankle," and that is where he hit them with the stick, when he killed them. After he had thrown their eyes into the fire, he went outside. The young giants were in each corner beside the fire. The two young giants were dead.

Chipmunk's brother now talked to the Giant. He asked him, "What do you do first, when you come home?" The Giant replied, "I dance. Just watch me dance."

Then Chipmunk's brother went into his holes and came forth in different places. The Giant tried to catch him and followed him about, but Chipmunk's brother was too quick for him and dodged into the holes. The Giant chased him around the assembly house. Every time that the Giant neared him, he jumped into a hole, appearing again in another part of the house.

He told the Giant, "You cannot catch me unless you dance. After you dance, I will let you catch me. I want to see you dance first."

Chipmunk's brother stayed outside, while the Giant danced. He shouted at the Giant and said, "Dance more. Jump higher through that smoke hole. I like to see you dance."

The Giant did as Chipmunk's brother told him. While he danced, Chipmunk's brother with his manzanita stick climbed on top of the assembly house. Suddenly he struck the Giant across the neck, decapitating him. The head rolled down close to the spring near the house

and the body of the Giant collapsed inside of the house. Chipmunk's brother then cut the Giant to pieces and scattered the flesh over the trees, on top of the rocks, and inside of the assembly house.

One of the Giant's brothers dreamed. He dreamed that his brother was obtaining plenty of meat. He said to the other brothers of the Giant, "Let us visit our brother. He is married now and obtains plenty of meat every day."

Then a large number of the Giant's brothers proceeded to the Giant's assembly house. When they arrived at the house, they saw the meat hanging on the trees. "Plenty of meat, plenty of meat, plenty of meat. Our brother is quite expert with his stone," they said.

Then they cooked the meat which they found on the trees, not knowing it was their brother's flesh. They thought that it was the flesh of various people whom he had killed. Each of them ate a piece. They had all that they wished.

The youngest brother desired a drink, so they searched for the spring, which they found. Just as the youngest one was about to drink, he noticed the head lying beside the spring. "We ate our brother," he said to his older brothers. Then they all returned to the house. The youngest one said, "Someone killed our brother."

"What shall we cry?" the youngest one said. One of the others answered, "Well, we will cry 'oak.' I do not know who killed our brother. We do not know whence the murderer came. Let us sleep and dream about it."

After sleeping, they arose. The one who had proposed that they sleep pointed to the south. The others did not believe that the slayer of their brother came from that direction. Each of the others said, "I have not dreamed about him yet. Let us sleep again." Again they awoke and the one who had dreamed said, "A man from the north killed our brother."

Again they slept, for they did not believe each other. One of them awoke and awakened the rest. "A man from the east killed our brother," he said. But they did not believe him.

The youngest brother, who found the head near the spring, started to cry. The others tried to stop him. He went again to the spring and thrust his head into the water. When he returned to his brothers, he pretended that he had cried more than they. They thought that the water on him was tears. They said, "He is the only one who really mourns for his murdered brother." Then they said, "Let's sleep again."

The youngest brother dreamed and awakened the others. He told them that he dreamed that a man from the west had killed their brother. He said, too, "Our sister-in-law is on the way to her father's house. I surely dreamed it."

They all said, "Let's cry." The youngest one objected, saying, "Let's sleep before we cry." Then he dreamed again. He dreamed that his sister-in-law was on the way to her father's house.

"Well, let's arise," said the youngest brother. "Let's try to catch our sister-in-law before she reaches her father's home." Thus spoke the youngest brother. "We must hurry," he said. "After we have made a good start, we can slacken our pace." They all proceeded on their way shouting.

Chipmunk's brother laughed after he killed the Giant. The Giant's brothers all ran and Chipmunk's brother laughed. Before their sister-in-law reached her father's house, the Giants overtook her. One of them said, "Here is our sister-in-law. You catch her," he said to one of his brothers. As one of them seized her, she threw a handful of crushed obsidian into their faces. They shouted, for she had thrown it into their eyes. Each one said, "Something is in my eyes. Hurry, remove it. Hurry, remove it. Hurry, remove it. Hurry, remove it." They examined each other's eyes for the obsidian. They looked and looked and looked. While they were examining each other's eyes, their sister-in-law left them. Again they pursued her and overtook her before she reached her father's house. They said to each other, "Catch her, catch her, catch her."

One of them caught her. Again she threw the crushed obsidian. She threw it into his face before he caught her. "I have something in my eye," he said. "I have something in my eye. I have something in my eye. I have something in my eye." Again they examined each other's eyes to remove the crushed obsidian. They looked and looked and looked.

Again they followed her. They said, "Let's hurry. Let's catch her before she reaches home. Hurry. She has her daughter on her back." Then they ran. They ran to catch her. Just as they were about to seize her, she threw the crushed obsidian in their faces again. Each of them said, "She has thrown something into my eyes." Then while they examined each other's eyes, she escaped.

After they had removed the obsidian from their eyes, they said, "Hurry. Let's catch her." Then they ran. "Catch our sister-in-law. Hurry," they said. When they attempted to capture her again,

she threw the obsidian in their eyes. "Something has come into my eyes. Something has come into my eyes. Something has come into my eyes. Hurry, remove it," each one said. "Hurry, so that we may catch her." They ran after her again. Every time they ran they shouted. Once more she threw the obsidian in their faces and one of them got it in his eyes. Again she ran and they pursued her. They said, "We will catch her and hold her this time. She will soon exhaust her obsidian." Again she threw the obsidian in their faces, when they tried to lay hands on her. She threw it into their eyes. Then they looked into each other's eyes and removed the pieces.

"Hurry," they said, "so that we may catch our sister-in-law." Then they ran. Once more she threw obsidian in their eyes, when they were about to seize her. Again she ran and this time they were close behind her. They shouted continually, while they ran. When they attempted to seize her again, she threw the crushed obsidian in their eyes. They looked in each other's eyes and removed the obsidian. This delayed them and prevented them from capturing her. Again they said, "Hurry, so that we may catch our sister-in-law." Once more they caught her and she threw the obsidian in their eyes.

"She approaches her father's home. Hurry, that we may catch our sister-in-law," they said. They ran. The woman had not lost her daughter, while she was running. When the giants overtook her again, she once more threw obsidian in their eyes.

The woman said to her daughter, "We will reach home safely. We will reach your grandfather's. Hurry and do not become tired. Hurry, or they will catch us." In the meantime the Giant's brothers were drawing closer to her. When they went to catch her, she again threw the obsidian into their eyes. They examined each other's eyes and removed the crushed obsidian. She escaped from them again, while they were removing it. She had very little obsidian left, but she was nearing her father's house. She was approaching it, while the Giants picked the obsidian from each other's eyes. "We are nearing home," she told her daughter, "so do not be frightened. Your grandfather (Lizard) will save us when we arrive there."

The giants ran close behind her, shouting as they ran. They stopped frequently to dance and to sing. Then they would run after her to catch her. When they were about to catch her, she threw the crushed obsidian at them.

She drew near her father's house. The Giants ran after her, saying to each other, "We must catch her before she reaches home."

When they had nearly captured her, she threw the crushed obsidian in their eyes. That was the only way she could escape from them. At last she reached the house.

She called to her father to open the door. She said, "A Giant killed your son-in-law. Hurry, open the door. The Giant ate your son-in-law." Thus she called to her father. Then he opened the door, which was a large rock. After his daughter had stepped inside, he spat on the door so that the Giant's brothers could not open it. The assembly house turned into rock, when he spat upon the door, turned into rock all around. The Giants encircled the house several times inquiring for the door. Lizard did not answer them. They finally became tired and sat down. Then they began to sing and dance. The old man asked his daughter, "Who are they? Who are they?" She replied, "They are the Giant's brothers." The old man, her father, said, "Let the wind blow them away. Let the wind blow them away. Throw them away. I do not want them here." Then a great wind came, but the Giant's brothers turned and blew the great wind back.

Then the old man in the assembly house called a great snow. The great snow came and covered everything. "Come and cover everything," said the old man, when he called the snow. After the snow had covered the Giants, they shouted and it melted. They shouted and the snow melted. After the snow melted, the old man said, "It is strange that they do not mind me. What is the matter with them? It is strange that they do not mind." Then he called the hail. He called the hail to try and force them to go away. He hoped that the hail would chase them away. Thus spoke Lizard, when he called the hail. When the hail started, the Giant's brothers shouted. The hail ceased immediately. Then Lizard, the woman's father, called for a flood. He wished the water to wash away the Giant's brothers. Thus spoke Lizard, when he called for the flood to help him. The flood came suddenly and washed away the Giant's brothers, before they had an opportunity to shout. They did not return, for they were drowned by the water.

Then the woman told Lizard, her father, "The Giant killed my daughter's father. He killed him. The Giant killed him. He ate him after he killed him. When the Giant came, we thought that it was Chipmunk's brother coming to tell us something. I told Chipmunk to go and meet him, when he shouted. I did not know that it was a Giant coming. Then Chipmunk went to meet the Giant. When

Chipmunk approached the Giant, he shouted to him and asked who he was. The Giant replied, 'Come here. I am here.' Thus spoke the Giant, when Chipmunk met him. Then the Giant said, 'That is my meat over there. I caught him, caught him, meat.' Thus spoke the Giant. We knew nothing about the Giant, but thought that he was Chipmunk's brother coming for a visit. Then Chipmunk brought the Giant home, brought the Giant home. He feared the Giant and tried to leave him in the bills, but the Giant followed him. Chipmunk's brother is there now. He has taken his dead brother's place. I do not know how he fares. He said to me, 'You go to your father. I will stay here. I will stay here and take my brother's place. I am ready for another Giant.' "

[The Giant made his home on Table Mountain, near Jamestown, Tuolumne County.]

4. THE MAKING OF ARROWS

"What shall we do, brother? What shall we do? I would like to hunt. I do not know how we are to hunt. I do not know how we are to hunt. I do not know how we shall be able to hunt. I should like very much to hunt. I do not know how we can make arrows. We have nothing with which to cut. We know of nothing with which to cut. I do not know how we can hunt. We have nothing with which to cut. We do not know how to cut. I would like very much to hunt, brother. I do not know how we are to arrange it, but we will try. We have nothing with which to cut. I should like you and me to hunt together, brother. We have nothing with which to hunt."

"Let us throw our grandmother into the water. If she does not want to go, we will pull her in. We will throw the old woman, our grandmother, into the water. After you have thrown her into the water, pull her out quickly. Pull her out quickly. Do not keep her in the water long. Do not keep her in the water long."

Then Dove went. Dove went. He threw his grandmother into the water, threw her into the water. After he had thrown her into the water, he pulled her out quickly. He pulled her out quickly.

Then Dove went to his brother and said: "I threw her into the water. I have already thrown her into the water. Come, I have her."

His brother said to him, "Pull one of her teeth. We will make a knife of it." Then he pulled one of her teeth, pulled one of her teeth. After they obtained the tooth, they commenced to cut, commenced to cut.

Then Prairie Falcon said, "Pull sinew from her arm. Pull sinew from her leg. We shall then have the cord for the bow." Thus spoke Prairie Falcon to his brother.

Dove obtained the sinew, as he was bid. Then they started to work on the arrows. They did not know how to begin. They made the arrows just by thinking. They made the bow. One of them told the other, "We will try." They made a good bow. They made a good bow. Nobody knew what the bow was. No one had ever seen a bow.

After they completed it, they looked at it. Prairie Falcon said to his brother, "I guess this will be satisfactory to hunt with." He told his brother to cut a piece of yellow pine. Thus spoke Prairie Falcon to his brother, after they had killed their grandmother. Then they cut the yellow pine with a knife made from their grandmother's tooth.

Their grandmother went into the water and cried and worried about herself. She said, "I did not think my boys would treat me this way."

The two brothers finished making their arrows and bows. They completed them. Prairie Falcon said, "These arrows are satisfactory. Let us try them." Thus spoke Prairie Falcon to Dove.

"We will see who can shoot the farthest." They shot toward the east end of the world. The arrows struck in the same place. The arrows struck in the same place. They did not strike in different places. They hit in the same place. After they had shot their arrows, Prairie Falcon said, "Let us race. Let us race. We will run to the place where the arrows struck. We will see who shot the farthest. We will see who shot the farthest."

Then they ran. Both started at the same time. Both started together. They both ran at the same speed. They ran together. One of them did not gain on the other. At last they reached the arrows. They arrived at the place where the arrows struck. Prairie Falcon said to Dove, "You are a pretty good runner. We both run about the same. Let us shoot again. Let us shoot again."

Then they shot toward the west end of the world. Again they ran to the place where the arrows struck. Neither won the race, for they both ran together. Prairie Falcon said to Dove, "We run the same. We run the same. I did not think that you could run so fast."

They shot their arrows again toward the east. The arrows struck

in one place. Then they ran. When they arrived at the arrows, both stopped at the same instant. They both stopped at the same time.

They shot again to the west end of the world. They shot toward the west. Then they ran to the place where the arrows struck. The arrows struck in a bush. When the brothers arrived, they saw the bush. One brother said to the other, "Let us dig this bush. It is good to eat. Let us dig it." They dug the bush from the lower side. Then they dug, dug, dug. They were nearing the end of the bush, nearing the end. They ate the bush as they dug. They ate while they dug. The root became thicker while they dug. They continued to dig, continued to dig. The younger brother said to the other, "Keep on digging. You will find the end pretty soon. Keep on digging." The older brother asked, "Do you see the end yet?" The younger one replied, "I am getting close to the end." He continued to dig. He continued to dig.

Then the grandmother, who had turned into Beaver, said, "I will have revenge upon those boys." She told the water to drown Prairie Falcon. The water came, while Prairie Falcon was digging, and drowned him. Dove escaped. He cried for his brother. He rolled and rolled over the hills. He cried for his dead brother. He rolled and rolled around the great mountains. He was scratched and bruised by the rocks and the brush. He bled all over. He mourned for his brother and cried for him. He said to himself, "I do not know what killed my brother." Thus he spoke to himself. He travelled all over the world crying, travelled to the places which he and his brother had visited together.

Dove met Spark. Spark asked him, "What are you doing? What are you crying about? Dove replied, "Something killed my brother. I do not know what it was." Then Dove sent Spark to investigate. Spark alighted close to the old woman. The old woman was still crushing bones. She was still crushing bones. A small bone flew out of the mortar. Spark seized it and put it on an arrow. Then he shot the arrow with the bone point toward Dove. The arrow struck in front of Dove, while he was crying. Dove picked up the arrow and looked at the point. As he was about to remove the bone point, it spoke to him. The point turned into Prairie Falcon. After the bone arrow-point transformed itself into Prairie Falcon, Prairie Falcon cried for his brother Dove, because the latter had so many wounds and bruises.

Prairie Falcon cried and cried over his brother Dove, because

the latter had bruised and hurt himself so. Brother Dove was bleeding. He had no hair. Then Prairie Falcon called the various kinds of birds together. He asked each to give him one feather. He said, "My brother has no feathers on him. Do me this favor. Give me one feather apiece." They each gave him one feather. Then he rehabilitated his brother Dove. He still cried for his brother Dove, for he felt sorry to think that Dove had cut and bruised himself so for him.

Then they went all over the world, searching for Dove's blood on the rocks, where he had struck. Every time that Prairie Falcon saw a rock with his brother's blood upon it he cried, for he knew that it was his brother's blood and that those were the rocks which had cut his brother.

Dove recovered from his bruises and cuts and was soon well again. Dove said to his brother, "I am well now. Worry about me no more. Worry about me no more. Do not trouble about me. I do not want to lose you. See how poor you look now." Thus spoke Dove to his brother, while he was crying. This made Prairie Falcon cry the more.

Dove continued. "I thought you told me the truth, when you said that that bush was good to eat. If I had known that you were to be taken away from me so suddenly, I should not have let you dig that bush. That is why I do not want you to bother with anything after this. Our grandmother turned into a Beaver just as you fell, brother. If we had not attacked our grandmother, we should have had a grandmother still." Thus spoke Dove to his brother, Prairie Falcon.

Now they had no grandmother. Prairie Falcon cried because his grandmother had turned into Beaver. They both cried and cried for their grandmother. They did not know how to get back their grandmother. They went along the river. They saw Beaver in the riffle. They said, "There is Beaver." Beaver was their grandmother. They used to take their grandmother everywhere they went, but they lost their grandmother because of the arrows. At last they abandoned the search for her and went home. Their grandmother had turned into Beaver.

Everybody made arrows thereafter. Dove cried for his grandmother. Prairie Falcon cried, but they made arrows. They lost their grandmother because of the arrows.

5. PRAIRIE FALCON'S MARRIAGE

"Going, going to marry Prairie Falcon," Green Heron said. "Give me a large basket. Give me a basket, so that I may give it to Meadowlark." The two left that night after they had married the chief. "Where is my daughter going?" said Green Heron. When they returned, Coyote followed them. Coyote said, "You, Green Heron, what will you do when the chief becomes hungry?" Thus spoke Coyote, when he told them to prepare food for the chief.

Eagle told California Jay to obtain food. Then Coyote said to Eagle, "We go now to hunt rabbits." Coyote continued to California Jay, "Yes, that is all right. Let's go." "Whatever you people say is good," said Eagle to Jay. Then they departed.

Jay and Coyote went hunting. Coyote ran away and hid behind a rock.

Green Heron told his daughters to pound acorns. They said, "Yes." They went over to the mortar, where they pounded acorns. The chief arose from his bed to marry one of the girls. He had never known any girl intimately. Then he went to the assembly house and told his wife to pound acorns on the following day. Prairie Falcon told his sister to take the acorns to the girls. One of the girls, Meadowlark, gave birth to a boy baby. After she had given birth to the child, she pounded acorns. The Eagle visited her while she pounded acorns. He took her, Prairie Falcon's wife. "Why is that chief deceiving me by taking my wife away from me?" said Prairie Falcon, and he became very angry.

Prairie Falcon decided to go away. He said to his sister, "Give me a bow and arrow. I am going into the world." He killed one quail with an arrow. He took the quail with him. He said, "I do not think my sister eats anything." Then he travelled over the world, along the water towards the north. After that he returned home. He told his sister to tell no one where he had been.

"I will kill my wife, if she follows me. She deceived me, when she married me," said Prairie Falcon. Then he went around the world, returning again to his sister.

After returning to his sister, he visited his sister's husband, Lizard. Lizard threw the fire to him. Lizard said to his wife, "What will your brother do over there?" Then Prairie Falcon said to his sister, "I think he does not wish me to remain." "Hold back your dogs," said Prairie Falcon's sister to Lizard, for Lizard had rattle-

snakes and bears for dogs. "I do not want them to bite me," said Prairie Falcon to his sister.

"I go now to the place where my father died," said Prairie Falcon to his sister. His sister objected, saying, "Do not go; remain here," for she feared for him. Their father had died at the place to which he was going. "No, I go. My father went there and I go, too," said Prairie Falcon. His sister then said, "Well, you may go, then. Remember, if anything happens to you, that you did not mind me, when I told you not to go."

"You watch my wife, for she might follow me," said Prairie Falcon to his sister. "If she comes, I will kill her. She is a pretty woman, but I will kill her, nevertheless." His sister said, "Do not kill her, for she will save your life when you arrive at your destination."

His wife followed him all the way. He looked back to find that she followed him. She was coming. Prairie Falcon said to his brother-in-law, Lizard, "Watch her closely, for I shall take her. I do not think that I shall kill her." Lizard watched her and Prairie Falcon took her. "Yes, I am going," said Prairie Falcon. "Do not give me that girl," he said to Lizard.

He went north. He told his sister not to tell his wife where he had gone. "I go to the north," he said. "I go to the north. I feel lonesome." Thus he spoke to his sister, as he was leaving. "It is all right if they kill me. I go around the water. I do not think I shall come back. I go around the water. I think that will be the last of me. I do not think that you will see me any more."

He changed his mind, after he talked with his sister, and went to the south instead. He finally arrived at his destination.

Lizard said to his wife, "Your brother will be back, so the fire tells me." Prairie Falcon's sister said, "Our brother has returned."

Upon his return, Prairie Falcon found that his wife had started for the place to which he had been. He set out again to overtake her. He overtook her before she arrived at her destination. Then they proceeded on their journey together. Prairie Falcon said, "I go to the place where my father died. I shall take my wife with me."

He arrived there and found that his father, Owl, still lived. Prairie Falcon remained with his father. His father said to him, after he had stayed with him a while, "If they want your wife, give her to them, because she will save your life."

Prairie Falcon's brother-in-law, Lizard, told his wife that her brother had gone.

Prairie Falcon told his wife not to come near him after they had arrived at their destination. "Keep away from me," he said. Lizard threw the fire on the ground. Prairie Falcon told his father, "Fire comes." His wife saw the fire coming. Prairie Falcon told his father to return.

All of the ground was burned after Lizard threw the fire. Prairie Falcon told his wife that a large fire was coming. "We had better hurry or it will catch us." His wife replied that she did not believe him. She pulled two hairs from herself and threw them on the ground. They became a lake. She did this after Prairie Falcon left. She entered the lake and stayed in the water, while the fire burned around it. She swam around the lake. Finally she came out of it and went to her father. Upon meeting her father (Meadowlark man), she said, "We are safe now, the fire has gone out." Meadowlark's wife said to him, "We go to the place to which Prairie Falcon has gone." Then they went. They obtained a large rock, which rolled upon the wife's leg.

Prairie Falcon told his wife that they had arrived at their destination. "They are going to have a game with me," he said. "If they win, they will kill me."

Prairie Falcon's father, Owl, helped him. He helped Prairie Falcon in the game, which they played. Prairie Falcon called strong winds from every direction to help him in the race. The big wind came as they started the jumping contest. Prairie Falcon jumped about before he jumped through the hole. He jumped through the hole. It snapped at him, but just missed him. He said to his wife, "We have gone through one place safely. Now we are going to my father."

Prairie Falcon's father dreamed that his son was coming. Prairie Falcon's father said that he dreamed that his son was coming. "I am going to meet him. He is on his way, coming to see me. He is coming. I think they will kill him when he arrives here."

The people told him that his son had arrived. "We can have a game with him," they said. "He has arrived. He has brought his wife with him." Thus spoke Chief Mountain Sheep to his people. Mountain Sheep gave a festival in which games were played.

Mountain Sheep said, "We are going to have a big festival. We are going to have a football game. Get Prairie Falcon's wife. Bring his wife. I like his wife. He can have my wife." They took Prairie Falcon's wife and brought another woman to him. They held a

festival. They told Prairie Falcon that he could have his wife back after the games were over. Prairie Falcon replied, "All right." Then, upon second thought, he said, "No. I would rather have my wife with me. I will send the string of beads." Eagle said, "All right. I will take the beads over there."

The other girl went to Prairie Falcon, but Prairie Falcon told her not to come near him, told her to stay away. She slept in a different place. Then she went to Mountain Sheep and told him that Prairie Falcon did not sleep with her. Prairie Falcon's wife went to Mountain Sheep's house and stayed there overnight. Everyone liked her.

Prairie Falcon told Gopher to dig tunnels in the ground on Mountain Sheep's side of the field, so that he would stumble when he ran. Then Gopher made tunnels in the ground. Next day they played football. Roadrunner helped Prairie Falcon and Dove; so did Kingbird. They ran. Owl kicked the ball; then Prairie Falcon's side won.

Next day they played more games. Prairie Falcon won the first game played. Owl kicked the ball; from where it landed Coyote kicked it; then Dove. After that they played another game.

Then Prairie Falcon said to his father, "Give me my arrows. Mountain Sheep is tired. They will kill me, father, if they win the game. I shall forestall them." Then he killed Mountain Sheep with arrows. After he had killed him, he returned home.

He returned home to his sister. Then he told his wife that she should bathe. "After that we will go home," he said. Owl bathed her. After she had been bathed, they started for home.

Prairie Falcon told his sister not to worry. "I have been over to Mountain Sheep's place," he said. "That is all for Mountain Sheep. I killed him, just as he killed my father."

Prairie Falcon came again to the hole through which he had passed. He called upon the winds from every direction to help him pass safely through it. He told his wife to cling to him tightly, when he jumped. His wife clasped him tightly about the waist. The hole opened just as he prepared to jump. Then he jumped through it.

When he had passed to the other side of the hole, he said to his wife, "We are going home." Then he went to his sister's house again. He told her that he had killed all of the people on the other side.

His sister told him not to talk thus while his brother-in-law (Lizard) was listening. Then Prairie Falcon became angry and went home. Then he went beyond his home. He said that he would never

return to that place again. He took his son with him. He did not sleep in his home, but went beyond it.

He left his wife at the assembly house. He told her that he did not know whether he would return or not. He arrived at a large rock, which was his father-in-law's place. His father-in-law (Green Heron) asked him if he wanted anything to eat. He also asked him if he had won in the game. Prairie Falcon replied, "Yes, I went there and killed the chief."

He stayed at his father-in-law's place for two nights. Then his father came to take him home. He told Prairie Falcon that his wife was worrying about him. Prairie Falcon came down from the large rock and talked with his father. He told his father that he did not desire to return. Then Dove and Coyote came behind him. They told him that they had left one and that they had not found the other one. Dove and Coyote were given bear hides to sit upon. Then they told him to marry the girl with whom he had been going. He did not reply.

His father asked him what he ate, while he was traveling. He told his father that he had nothing to eat. His father told him that he would get him a quail, if he would marry. "Quail is the only thing I ever eat," said Prairie Falcon to his father. His father went hunting.

[Prairie Falcon's assembly house was at Goodwin's ranch near Montezuma in Tuolumne County. Mountain Sheep's village was at the south end of the world.]

6. THE FLOOD

Prairie Falcon told his people to prepare. He said, "Get ready, Eagle. Get ready, Flicker. Get ready, Dove. Get ready, Woodpecker. Get ready, Quail. Get ready, Kingbird. Get ready, Hummingbird. We are going. We are going. We are going, going toward the north. Hurry, prepare, for we must go at once, must go at once, must go at once." Thus he spoke, when he told his people to prepare. "We shall take the people. We shall take the people to the place where my father always goes."

Prairie Falcon said to Eagle, "Tell everyone, Eagle. Tell everyone, Eagle. Have your people prepare. Tell California Jay to come. Tell Coyote to come. Tell Hummingbird to come. We will go to the top of the great mountain."

Eagle said, "We shall follow our chief to the great mountain. We will go there, so that we may see how the world fares. I hear that a flood approaches. We are all going together. Do not say 'I shall stay home.' We are all going. Do not say 'I am sick.' Do not be lazy. We are all going, going toward the north. We will arrive there. We will see different sorts of people." Thus spoke the chief, when he told his people to prepare.

Prairie Falcon said, "We are all going. Do not stay behind. Take Chief Eagle for a guide. He knows the way. Hurry, the water comes. Do not stay at home, for you will drown. We are all going. We will try to escape from the flood." Thus spoke Prairie Falcon to Eagle. He continued to Eagle, "I do not think that the water will cover the great mountain. If we arrive there before it overtakes us, I think we shall be saved."

They hurried. "The water is just coming over the bluff," said Coyote to Chief Prairie Falcon. Coyote saw the water coming over the bluff. Flicker became frightened and fainted. They called Hummingbird to save Flicker's life.

Coyote said, "I am the only one who will drown, as I cannot run fast enough. One of my legs is cut off." They all went, except Coyote. He could not walk. He stayed on a big log as the water neared him. The water reached him and he floated with the log. Meanwhile, the people gained the mountain top. The water overwhelmed everything, making great caverns in the mountains. Coyote on his log drifted hither and thither and finally stranded in a different country. The water subsided after drowning all human beings.

Eagle said to Rattlesnake, "The flood washed us to this mountain top." Rattlesnake repeated this to his wife, saying, "The water washed those people to our mountain."

The water rose a second time. It rose higher than ever, and it washed down the great mountain where the Rattlesnakes lived. Eagle sent Dove into the air to survey the water for another mountain, where they might take refuge. Then he sent Hummingbird on a similar quest. Hummingbird found dry land, returned, and told Prairie Falcon.

"Hurry, let us go before the water overtakes us," said Prairie Falcon to his people, "for the water still rises." They went, taking Rattlesnake with them. On the way Rattlesnake bit Flicker, who was carrying him. They dropped Rattlesnake in the water, and he had to swim. He swam back to his home, which the water had not quite

covered. After he arrived there, the water rose higher and completely covered the mountain. Rattlesnake was forced to swim again, but as he could not find land, he became exhausted and was drowned.

Water flooded the entire world. At last Prairie Falcon and Eagle and their people arrived at a piece of dry land. There they found green fruit. Hummingbird told them not to eat the fruit. Then they sent Dove to survey the water and discover how humanity fared. Dove reported that all human beings were dead.

Prairie Falcon and his people were starving upon their piece of dry land. Prairie Falcon again sent forth Dove and Hummingbird with orders to bring back some earth. He told them to obtain mud. He instructed Hummingbird not to suck the flowers and Dove not to eat the weed seed. "Do not forget to bring mud," he said, "Do not eat the weed seed and do not suck the flowers." The water had subsided. Prairie Falcon said, when he sent Dove and Hummingbird, "Do not forget to bring mud. Do not forget to bring mud." Thus he spoke to Dove and Hummingbird. Then the two went to obtain mud. This occurred after all human beings were dead, after they had been drowned and after the great mountains had been changed. Then Dove and Hummingbird went.

7. THE REPEOPLING OF THE WORLD

Chief Eagle said, "Where is Coyote? Where is Coyote? He must try to resurrect the people. Where is Coyote? He must try to resurrect the people. What shall we do about our dead people? Who is going to help us? Tell Coyote to think." Thus spoke the chief. "Tell Coyote to think intently. All human beings are dead." So said Eagle to Coyote.

Coyote said, "I do not know how I shall bring them back to life." Thus spoke Coyote, when he answered Eagle. "But," he continued, "I will try to bring them back. I will try to bring them back."

He went to the top of a rock and slept. He dreamed that he saw a skeleton. Then he went to the chief and told him that he had seen a skeleton in his dream. The chief sent him back, saying, "That may help us. Go back and sleep again. If you dream again do not arise. The skeleton may talk to you."

Coyote said, "No one helps the chief. He feels lonely. He mourns each day for the dead Indians." Then Coyote dreamed of the skeleton again. The skeleton awakened him and told him to sing. The skeleton said, "If you sing, the people will return."

Coyote sang in a great cave. The skeleton told Lesisko [translated as "devil" by the interpreter] that Coyote was singing in the cave. Coyote sang, "Come back, all of you girls. Come back. Come back. Come back. Come back, all of you old people. Come back. Come back. Come back, all of you women. Come back. Come back. Come back." Thus sang Coyote, when he called the people back after Eagle asked him to resurrect them.

Prairie Falcon told Coyote to try hard to bring about the return of mankind. Coyote sang and cried for days and nights. Eagle cried. He said to Prairie Falcon, "I do not think Coyote will bring your people back." Coyote said, "The skeleton told me that, if I sang loudly each morning, some of the people would return, but not all." Then Coyote went to the chief and said, "The skeleton told me that by singing loudly every morning some of the people would return, but not all." The chief felt a bit better after he had this word from Coyote.

Coyote said, "I think that I shall bring my people back. I think that I shall." Thus he spoke, when he talked with the chief. He felt very happy, when he said this to the chief. Then he continued, "I will go back to the cave and sing."

Then he sang. He sang in the morning. First he brought one old man back to life. He tried to talk to the old man, but the latter would not answer him. The old man did not even shake his head. Coyote said, "I will try some more singing."

Coyote then visited the chief and told him, "I shall bring the people back, but they will not be the same people. They will be very nearly the same people, but they will be a little different." The chief laughed.

Then Coyote ran around the rock shouting, ran around the rock shouting. He felt glad that he had resurrected the people. He said, "I brought back my grandson. Now there are many people. Now there are many people. Now there are many people. I brought them back. Now they are nearly the same as they were before."

Then he climbed a hill. He ran around the hills and shouted. He went around the hills and shouted. Eagle said, "He has made the same people. Coyote has done well." Thus spoke Chief Eagle, for he was glad to see the people alive again. Coyote still shouted and danced in his joy.

The chief said to Hummingbird, "Go back and look at that mountain." Then Hummingbird went. All of the people returned. The

chief was glad to see his people. He said that the various kinds of baskets must return. The chief was glad. He said, "Coyote did it all." The chief told Chief Prairie Falcon, "Coyote secured the return of the people through the help of the skeleton." Then Coyote shouted, because he was glad that he had brought back his people. Thus spoke Coyote. Thus spoke Coyote.

Chief Eagle said, "He brought back the people." Coyote said to Prairie Falcon, "We have saved our people. They have returned to their places. I have brought my people back." He told no one. He just thought about it, when he brought the people back. No one told him what to do. When he saw the people, he was glad. Coyote said, "I do not know what happened to us. I do not know what it was, that killed our old folks. I do not know whence the water came." Thus spoke Coyote, while he was running.

Prairie Falcon said, when he answered his brother, "Yes, that is all right." Coyote shouted and shouted, when he secured the baskets, various sorts of baskets, the various sorts in which the people cook. He shouted and shouted, after he had brought back everything together with the people. He was glad to have his people again. Then he stopped shouting. He stopped shouting. He said, "It is all right. It is all right." But when he spoke he shouted again. Then he became accustomed to shouting and he still continues to do so. Because he was glad to see the people, he shouted.

8. THE SEARCH FOR THE DEER

"'What is the matter? What is the matter? What is the trouble that we see no deer? Have any of you seen their tracks? We do not see them.' That is what you people say each time that you return from hunting. Mountain Lion, you go back and look." Thus spoke a number of the people before daybreak. "Look for the tracks of the deer," they said. "We did not see their tracks. Look for their tracks, Eagle. See if you can find them. Look for their tracks, Eagle. What shall we eat, if we do not find the deer?" So spoke the people.

"Where is Fox? Where is he? We want him to find the deer. You hunters search for the deer." Thus spoke the people to their hunters.

All went into the hills before the sunrise. Each person went on a

hill. They went on the hills toward the north, but they saw no deer. The deer were in several large caves. They did not come forth in the morning as usual. They did not appear. The hunters searched daily for them, but found no tracks.

The people came together and said, "What is the matter with the deer? Even we cannot find their tracks." Fox, Black Fox, Mountain Lion, and Wild Cat held a conference. "Do not you see deer tracks?" they asked each other. Each responded, "No. No. I do not see their tracks." Thus spoke each of the hunters. Thus spoke the hunters after the deer went into hiding in caves in the high cliffs.

Then the hunters asked, "Where is Crow? Let him search for the deer. We must find them soon, or we shall starve."

Mountain Lion said, "Where is Fox? Let him try to find the deer, for the hunters have very nearly given up." Fox answered, "I do not think that I can find them. It is useless for me to try. None of you hunters have found them, so what is the use of my trying?" Thus spoke Fox to the people. He did not wish to try, for all the good hunters had already tried.

While they were assembled, they asked Mountain Lion if he had seen deer tracks. The people said, "We have seen no deer. We see but one track each day, when we go out. We see no deer, but only the tracks." Thus spoke the people. The deer were hiding in a cave. Each day one deer came forth. The deer entered the cave from either end.

Fox said, "I will try, but I fear that I shall find no deer." Thus he spoke, when he left the people in search of the deer. He went, intending to do his best. He went to the south end of the world. Then he went around the world. He went to the place where the sun sets. Then he returned home. He told the people that he had seen no deer, that he could find none.

Again Fox, together with Crow, journeyed through the hills in search of deer. Fox returned, but Crow did not. Black Fox then went out in place of Fox. He went up a mountain and stayed there overnight. Black Fox was unsuccessful, however, for the next day he returned without having found the deer.

The people said, "Crow has not returned yet. He must have gone far. They sent Eagle and some of the people with him, saying, "You men try to find Crow, for he has not returned. Something must have happened to him." After a while Eagle and his people returned without having found Crow or the tracks of the deer. The people

were starving. They had nothing to eat. Eagle said upon his return, "We are starving. All that we have is water."

They next sent Wild Cat to search for the deer. Mountain Lion said to the second Crow, "You go. See if you can find the deer. I fear that if you cannot find them, we shall die. We shall starve." Then Crow went. He climbed first to the top of a high hill. The first Crow, his brother, had not yet returned. He stood on the top of the high hill, which is at the end of the world. Then he returned. He told the people that he could not find his brother. Thus he spoke, when he returned.

The chief said nothing, for he was worrying, because his people were starving. The chief said nothing, but was worried. Finally, he said to Mountain Lion, "You go. Let us see you go." Mountain Lion now went to locate the deer. He followed along the creek. Upon his return he said, "I do not know what is the trouble. I could not find them. I could not even find their tracks. I do not know what is the matter with them. I do not know what is the matter with Crow." "What is he doing so long away?" the people asked. "Let us see you find Crow," they said to Fox.

Then Fox departed, when the people told him to go. He went to a large rock. He returned and told the people that he could see no deer.

Then the people said that they would send the second Crow. "Let us see you try," they said. Then the second Crow went. He climbed a high mountain to the south. He saw nothing when he reached the summit. Then he returned and told the chief, "I saw nothing. Something must have killed my brother. I saw no deer. I do not know what is the matter with them. Perhaps they have gone somewhere. Perhaps my brother has followed them." Then Mountain Quail went into the hills. But he, too, returned and told the chief that he saw nothing.

Then they sent the second Crow again with instructions to remain two days in the hills and to see if he could find his brother. Crow left before sunrise and climbed to the top of a high mountain before the sun rose. The sun rose after he reached the summit. Then he looked down the mountain and saw a large cave. After he had seen the cave, he went down the mountain towards the water. After reaching the water, he prepared to drink. Then he did not drink. He returned home and told the people that he had seen a cave. He said, "After I discovered the cave, I went towards the water down the

hill. I intended to drink. However, I did not drink the water after I reached it. I thought about my brother and that is why I came home. I think the deer are in that cave."

Then the chiefs discussed the matter after Crow told them of the cave. He returned to the hill before sundown. Then he saw the deer entering the cave after sundown.

The chiefs assembled the people and, while Crow remained on the mountain, they gave a dance. All of the people, all of the hunters, assembled. They said, "Chief Crow has found the cave." Crow sang while he remained on the summit. He sang, "I bested the other hunters. I found the deer. We shall not starve now." Thus sang Crow after he found the deer. He returned and told the chief about the deer, told the chief about them, when he arrived at home. All of the people assembled. Chief Mountain Lion said, "We are saved now, because we have found the deer. I shall take my son. I shall put him to the test." He said that he was going to test the courage of his son. He placed his son within the cave. He put the people all around the cave in different places. He closed the exits of the cave. He did not want the deer to escape, so he closed the exits. He placed the people all over the hills, so that they might kill the deer as they came forth from the cave.

Wolf and Coyote came to help kill the deer. After Mountain Lion had everything ready, he sent his son inside of the cave to kill the deer. Then his son entered the cave. Young Mountain Lion went in to show his prowess. His father stayed outside. Then young Mountain Lion commenced to fight with the deer, but he fainted from the heat within the cave. His father entered and brought him out and laid him beside the stream. While he was rescuing his son, the deer escaped. They ran out on the other side of the cave, but encountered Wolf. Wolf started to pursue them, but he collided with a rock. Next the deer encountered Coyote further down the hill. They jumped over Coyote, but he pursued them, until his legs caught on a rock and he fell backwards. Some of the deer ran up the hill, where there was a band of people. They ran over all of the people and no one killed a deer. The people were starving and one of them died.

One of them died and the others felt very weak. They did not know what to do after the deer escaped. The chief said to his people, "Let us go home." Some of the people said to the chief, "We do not think that we shall reach home; we are starving." Then the chief went alone. He left his son beside the creek, left him there singing.

While proceeding along the creek, the chief met Skunk. Skunk asked the chief to stop for a while. Then Skunk said to the chief, "Let me ride on your back. I will dance on your back." The chief was not agreeable. He said, "You had better walk. I am not strong enough to carry you. I am starving. My people are dying." Skunk said, "Do not say that. If you say that I shall die. Give me a ride on your back and I will do you a favor."

Then the chief heard from the second Crow. The Indians were dying daily, starving to death, as they had nothing to eat. The chief said to Skunk, "I am going. I am going." Skunk besought again, "Let me ride on your back. Then I will save some of your people." The chief replied, "Come on, then." They went, Skunk riding on the chief's back.

The people were dying rapidly. Crow said, "The chief is returning." The chief was coming. The chief told Skunk to hang on tight. He said, "I am going to wade this river." Skunk said, "I do not care if all your people die, so long as I get this ride on your back across the river." The chief became angry when Skunk said that. "Get on, we are going to cross the river," said the chief. When they reached the middle of the river, the chief pretended to stumble. He fell down and Skunk lost his hold. Skunk drowned. The chief went on across the river.

As soon as he had crossed the river, he looked up the hill. He saw the first Crow descending the hill with a load of deer. Crow told the chief, "I killed many deer on the creek." The chief told Crow that all of the people had died. "That is Skunk's fault," said the chief. "He told me he would save my people." Crow said, "Your remaining people will be saved, for we have plenty of meat now. Thus spoke Crow to the chief, when he met him on the bank of the river.

9. SALAMANDER AND CHIPMUNK

Salamander said to Chipmunk, "Let me go to see my house. This same thing has been here for a long while. My son-in-law has been in this condition all the time. I could not get the big deer. I tried my best to kill him. I tried and tried to break his neck. I could not break it and he escaped from me. I could not kill that big deer. He escaped from me. I could not take that big deer. I could not take him. It frightened me, when I could not take him. I tried. I tried to break his neck. You had better tell my son-in-law."

Chipmunk said, "My father is lost, is lost, is lost because of Salamander's troubles." Thus spoke Chipmunk, when he started to search for his father. They were a long time finding his father's tracks. They found only old tracks on the rocks. When he found his father's tracks on the rocks he cried. He said, "I do not think my brother knows that his father is lost." So spoke Chipmunk to his son. He tried to find more tracks, but could not.

They crossed the creek and sought his father's tracks there. Across the creek he saw a large deer which he followed a long distance up the creek.

There he met two women. He stopped when he saw them approaching. He tried to leave the trail. Then he stopped. He did not want to go farther. "Let us catch him," the women said, "He is going to pass near us. We will not let him pass."

Chipmunk said, "Get away, please. I am searching for my father." He tried his best to push the two women from the path, but they would not move. Again he tried to pass between them, but they would not leave the trail. He did not want to do it, but again he tried to go between them. Then they caught him.

They called to their father to come down the mountain and help to take him up. "Father, we have caught a man, who is looking for his father. He has been searching and has had nothing to eat for ten days." Then their father came to help them take their prisoner home. "Keep your father away from me," Chipmunk said to the girls. "I do not want him to come near me."

"I think this is my last chance to attempt to escape from you girls. I wonder if my brothers know that I am going to be lost. This is my own fault. I should not have been caught, if I had not been looking for my father. I think they did the same thing to my father."

The girls called, "Father, throw a rope, throw a rope. We have caught our man." Thus they called to their father when they wanted him to throw them a rope. Thus they called, when they caught Chipmunk and when they told their father to throw a rope.

"He is my man, sister. He is my man," the younger sister said to the older. The younger one shouted again to her father, "Throw that rope. Hurry. We have our man. We have our man. I do not know what we shall feed him." Thus spoke the younger Deer girl, when she turned into a real woman.

"Throw, and throw, and throw that rope, father. I have my man. Mine. My man. Father, father, throw that rope. We must bring

him up there. I do not know what I shall feed him. I do not know what he eats."

Their father said, "My children, my children. My poor girls have caught their man. I do not know where they found him." Thus he spoke, when he threw the rope. He was glad to hear his daughter tell him to throw the rope. He said, "I do not know, I do not know, I do not know what they will feed him." Thus spoke the old man to his daughters. He was glad to have a son-in-law, for he was becoming old. Thus sang old Deer. He continued, "I do not know where, I do not know where, I do not know where they will keep him. I do not know where they will keep my son-in-law." So spoke the old man, when he saw his son-in-law. Thus he spoke, thus he spoke, when he felt glad that his daughters were considering marriage. He was so happy over his son-in-law, that he danced and sang.

"I have my man. I have my man," the girls said, when they talked to their father and told him to throw them the rope. "I want to bring him up there. Throw me the rope, father. I do not know what I shall feed him, when I get him up there. I have all sorts of things for him to eat, but I do not know what he eats." Thus they spoke after they caught Chipmunk, after they caught him, while he was travelling everywhere. "Father, throw that rope. Throw it. I am going to catch my man." Thus she spoke, when she told her father to throw the rope. "I have my man," she said, when she talked to her father at the top of the sky.

"Let us search for our brother," said Brown Bird to Tuyipitina [another bird]. He spoke thus while he sang in the middle of the water. Thus spoke Brown Bird, when he chased the deer after he had missed Chipmunk. "Get ready," he said, "We will search for our brother." Then Brown Bird and Tuyipitina went. They alighted on the horn of a deer and remained there. Brown Bird alighted on the horn a bit higher than Tuyipitina. "We have obtained the deer for which our brother has searched," said Brown Bird to Tuyipitina. The deer ran with Brown Bird and Tuyipitina. The two of them could not hold him. Brown Bird said, "Let us go, let us go." This happened in the night.

Chipmunk said, "I do not know who has captured me. I do not know where they will take me. I do not know where they will take me." Thus he spoke as the girls tied him. Thus he spoke while they tied him with the rope. He thought that it was to be his last time upon earth. "I do not know if anyone will find me," he said. "It

is Salamander's fault that I am caught. If I escape I shall even the score with Salamander." Thus he spoke after they took him to the sky.

He did not know how to escape. When he arrived there, he saw many deer. He was surprised to see so many deer. He sang. He sang there. He sang. He did not know where he was. He was afraid after they brought him there.

They cooked and cooked, cooked many kinds of seeds such as we [the Miwok] eat. The girls said, as they were about to feed him, "Tell them to cook one kind of seed for him." Chipmunk did not want to eat seeds. There were all sorts of seeds, but he did not want them. They tried to feed him many kinds of seeds. In despair the girls said to each other, "I do not know what he likes to eat." They did not know what he liked to eat.

One of the girls told the deer, "Here is this one, who always searches for us." All of the deer looked at Chipmunk. "I do not know, I do not know, I do not know what we shall feed him," said one of the Deer girls. "I fear we shall starve him." Thus they spoke, when they gave him the seed to eat.

"Take it away from me. Do not place it near me," said Chipmunk, for the seed did not smell good to him. They did not put the seed near him. Chipmunk said, "You girls might just as well let me eat your father. I am getting hungry. I might just as well eat your father. I shall eat your father. There is no use trying to save him. The old man is pretty poor, but I shall eat him just the same."

"Our father is across the way," said the girls. "Let me see how I can shoot with my bow and arrow," said Chipmunk. Then he began to sing and old Deer became fat. Old Deer became so fat that he could scarcely walk. Chipmunk continued singing. That was all he did. Finally he arose. He took one arrow with him. Then he knelt, the two girls holding him. He shot old Deer with the arrow. Deer was old, but he was fat.

One girl on each side held him after he killed their father. They watched him, as he removed the fat and hide from old Deer. He intended to make garments of the hide.

"That is the way they treat us," said the girls as they watched Chipmunk skinning their father. All of the deer were watching Chipmunk. Chipmunk tried to keep the girls away from their father's body. He said, "Keep away, girls. Keep away. You might step in the blood of your father."

"I do not know where I shall go, after I have eaten this Deer," said Chipmunk. "If I do not leave this place, I think I must kill more." Thus spoke Chipmunk to himself. "I shall try my best to leave this place."

Chipmunk's older brother searched for him. He travelled all over the world, travelled to the edge of the world, looking for his brother. His older brother said, while he searched for him, "I do not know what has happened to my brother. I find him nowhere." Meanwhile Chipmunk ate the deer. The other deer stood about watching him. He ate and sang at the same time, while his brother searched for him all over the world.

Chipmunk's older brother said, "My brother, my brother. I do not know where he has gone." Thus he spoke as he travelled about the world in search of Chipmunk. He travelled night and day without food in search of his brother.

At last he arrived at the place where the Deer women had captured Chipmunk. His leg became entangled in some of the rope which they had dropped when they tied Chipmunk. He knew what had happened to his brother, when he found the rope. He cried and he cried, when he discovered what had happened to his brother. "I fear they killed my brother after they took him up there," he said. He cried, he cried, and he cried. He did not know how to climb to the sky, where his brother had been taken. While he cried, he said, "I shall try to climb somehow. If I reach that place, I will put the deer to sleep.

He went there in the night, crying all the way while he climbed. He found his brother. He said, "We are going home. We are going home." When he spoke thus, he cried anew. Then Chipmunk cried, when he saw his brother cry.

Chipmunk told his brother to cry no more, "For," he said, "I am still safe." His older brother sang, while he put the deer to sleep. "We are going. We are going. Get ready," he said. He brought a bow and arrows. Then he said to his younger brother, "You get on one end of this arrow. We are going." Then he shot two arrows. His brother hung to one and he hung to the other. The arrows struck at their home. Thus he brought his brother back.

He continued to cry after he had brought his brother home. He said to him, "You had better stay home. You had better stay home. Never hunt again." Thus he spoke to his brother and it made his brother cry. "Don't ever go into the hills again." Thus he spoke

to his younger brother, Chipmunk. "Don't ever go into the hills again. Do not go into the hills any more. They might catch you again." Thus spoke the older brother to Chipmunk.

Chipmunk said, "I was caught because of Salamander. All of this trouble is his fault. Salamander got me into this trouble. I will have revenge upon him, when I reach home." He was crying, as he walked toward his house. He sang also as he walked toward his house. He said to himself, "When I enter my house, I shall build a fire."

Salamander lay beside the fire. Chipmunk said to him, "I shall kill you. I shall throw you into the fire. You might just as well take your last breath now." Thus he spoke to Salamander after he had built the fire. He lifted him to throw him into the fire. He said to Salamander, "You are the fellow who deceived me. You told me that you saw large deer. You may just as well take your last breath on this spot." Thus he spoke when he threw Salamander into the fire. Thus he sang after he had thrown Salamander into the fire.

Chipmunk said, "I shall leave, leave this place. I shall stay here no longer." Thus he spoke, when he left. "I shall never return to this place. I am going, I am going to my home. I am going to my home to eat that which I always eat." While he proceeded homeward, he sang about the food which he would eat in his home. "I am going home, I am going home," he said, as he journeyed up the mountains toward his home. Thus he sang, as he journeyed toward his home. Thus he spoke, as he walked up the trail toward his home. Thus he sang, as he went over the trail at night. He looked for large deer as he went home in the night. He arrived at home about sunrise, reaching the house where dwelt his brother and his sister. He said to himself, "I have reached home. I am now with my brother and sister. Now I am safe. I shall worry no more." He was glad to be home.

10. LIZARD AND FOX

Lizard said, "I am going to see the worms." "Do not come near me. Do not come near me," said Worm. "You do not smell good," Lizard said, when he saw Worm. "Keep away from me. Keep away from me. Do not come near me. Keep away from me. Keep away from me. I do not want that grass after it is cooked. It does not smell good." Worm was on the fire. "I did not like him after I

had a good look at him," said Lizard. He said that from the top of a big log. He did not like to drink water. He did not want to drink water. Water did not smell good. "Keep away. Keep away, Tarantula. That grass smells bloody," Lizard said. He spoke thus, because he did not like grass.

Thus spoke Lizard when he sang about his food below. "I am going below," said Lizard, "I go there to eat worms. Then I will return and see where Fox is going to hunt." Thus sang Lizard from the top of the log.

Lizard did not like seed. He did not like grass. Thus he sang from the top of the log. When Tarantula brought him food, he said, "Keep away from me. Keep away from me. I do not like grass. I would rather eat worms below." Thus sang Lizard about his food below.

Tarantula asked Lizard, "Why don't you like the food that I eat?" Lizard replied, "It does not smell good to me. I am going. I am going. The ground is damp below."

"Be sure to return," said Tarantula, "for Fox is going to hunt." "I go below to eat worms," said Lizard, "I shall return." Thus spoke Lizard when he was starving. "I am going below, then I will return. There is no food for me here." Tarantula said, "You must surely return, because Fox is preparing to hunt in the hills."

Fox was preparing to hunt. He said, "I wonder if Mountain Lion is ready? Are all of you hunters ready? Mountain Quail may go with us. Skunk may go with us. Coyote may go with us. Wolf may go with us. We are going to hunt deer. Put Skunk on the lower side of the hill. Dove may go with us. Hummingbird may go with us. They may all run on the hill. Crow may go with us."

"I shall kill a large deer," said Mountain Lion, when Fox told him that he might hunt. Mountain Lion continued, "Confine Night Hawk, for he is likely to steal from us, if we leave the camp. I am going ahead. I know where the big deer stay. Do not take Night Hawk with you, because he might take a whole deer in his mouth. I shall kill a large deer for us. I shall kill no small deer," boasted Mountain Lion. So spoke Mountain Lion, when he prepared to hunt for the large deer. He said, "I am going into the hills ahead of the rest, to get a large deer for us."

Mountain Quail said, "I will break the neck of the large deer. I will break the neck. I will break it, I will break it." Thus spoke Mountain Quail before he started. He continued, "You people can-

not enter the brush. I will enter the brush. I fear nothing. I do not think that you people are brave enough to enter the brush. I shall enter the brush between those large mountains. I shall break his neck. I shall break his neck, when I meet him in the brush, when I meet the large deer in the brush. I think that the rest of you are not brave enough to enter the brush between those great mountains. I am the one who always enters the brush." So spoke Mountain Quail, while he travelled toward the brush between those great mountains. "I am going into that brush. I think you people are afraid to enter that brush, for fear that you might meet a bear." So spoke Mountain Quail.

Bald Eagle said, "I am going too. I shall kill a large deer also. I do not think you people can find a large deer. I do not think you can fan the large deer. I do not think you can fan the large deer. When I fan him, I shall put him to sleep. Then I shall kill him. You tried to get ahead of me by leaving me behind. You must think that I am too old. I shall fan the big deer with my two wings, from both sides of the hill. From both sides I will fan him with my two wings. I am going. I am going to help you find the deer. I know where the deer stay. I will find them before you do. I shall fan the large deer with my two wings. When I see one I shall put him to sleep. I shall fan him. I shall fan him." Thus spoke Bald Eagle, when he prepared to hunt, when he told the Mountain Lion to prepare. Thus he spoke. Thus he spoke. "I am going. You people stay on each side of the creek and I will fan him with both wings from the middle."

Wolf said, "I shall chase him until I run him down. I shall chase the fawns, which sneak away from the big ones. If they escape from you hunters, I will chase them." So spoke Wolf, as he prepared to hunt with Mountain Lion. "I will run them over the hills. Just watch me. I will collect the deer in one place. I will run from sundown until sunrise, so that you hunters can kill them while I sleep. I will gather them in the night. Then when you start, send Skunk to me. If they escape from you, awaken me and I will pursue them until I capture them," said Wolf.

Coyote said, "I shall be there when the deer run. I shall eat them, while they run. There is no use of you hunters running, while I am there. You know that I am a good runner. If the deer get away from you, I shall chase them. I shall chase them. I shall chase them. I shall chase them. I shall chase them whether the ground is rough or smooth. I shall capture them just the same." So spoke Coyote

before the party set out. "I will bite the leg of the deer while he runs. The deer will have no chance to escape," said Coyote.

"I shall go with you, for I can find the deer in any place. I can find them anywhere. I know how to find them. I shall look down from the hills just before sunrise. I can find more deer than all of you. I will eat nothing but deers' eyes," said Crow, for he was very fond of them. "When we hunt, I shall find the deer for you. I know how to find them. When we return, all that you need give me are the deers' eyes. Perhaps you do not believe that I can find deer. I can find the deer before sunrise or after sundown. Eagle thinks that he is the only one who can find deer. I shall go with you. I shall find those deer for you. I excel Eagle in finding deer."

Fox prepared the men to hunt. He said, "We are going. Get ready. Get ready. Get ready, Mountain Quail. Get ready, Eagle. Get ready, Coyote. Get ready, Wolf. Awaken Skunk, prepare him, for he must walk on the side of the hill. Keep track of Night Hawk. Keep him hidden, for he is likely to swallow a whole deer." So spoke Fox, when he became the head chief and when he prepared his people for the hunt. "Gather Mountain Lion, Coyote, and Wolf on one side of the hill in an open place. They are good hunters."

Black Fox said, "I always go into the difficult places. I am going, too. I am going into the middle of the brush, when we hunt. I shall scent the deer from there. I shall enter the deep canyons and look for their tracks." So spoke Black Fox. Mountain Lion warned him, "You must be careful, when you enter the hills." "I fear nothing," Black Fox retorted. "I will enter the thickest brush. I will enter the brush and drive out the deer." So spoke Black Fox to Fox. Fox said that he was ready to start whenever his men were. "You must keep the big deer separate," he said to Black Fox. Black Fox said, "I shall start ahead and enter the hills. When you are ready, send Mountain Quail to awaken me."

Skunk said, "Just watch me hunt. I am going out to kill deer. I get them from both sides. After you have separated the large deer, tell me where they are and I will eject my fluid upon them. I will kill them all. I will make the fluid, which I eject upon them, very strong. But I want someone to carry me, because I cannot walk fast. I will have a load on me, anyway. I want to be sure to get a number of deer with my fluid. From the north side, I will eject my fluid. From the west side, I will eject. From the east side, I will eject. From the south side, I will eject. After you have gathered the deer,

carry me to the place where they are. I will take my son-in-law with me. I will dance on the top of a small rock, singing my song."

Dove said, "I shall eat seed before I go. I shall eat seed before I go. I shall run. I shall run after I eat the seed. You people cannot run. You stay in the brush." Thus spoke Dove to Chief Fox. "If a deer escapes from you, I shall capture him," continued Dove. "If you people eat the deer, I shall eat the seed. I shall help you to obtain the deer." When Dove was ready, he said, "Let us go. Let Hummingbird come with me." Dove took Hummingbird with him, when he went ahead of the rest of the part. He said to Hummingbird, "Let us race. We will see who kills a deer first. Let us race. Let us race." Hummingbird accepted the challenge.

Hummingbird said, "When I ran a race with Dove, I travelled quite fast. We were just about even at the end. I will try to eat the seeds that Dove eats. I will also eat flowers. I shall run another race with him. I shall run a race with him to the end of the world. I shall not go only to the middle of the world in my race with Dove. I shall race him to the end of the world. When he and I race, it is a tie. I shall run a race to the end of the world. If he ties me again, then he and I will travel together for all time. If he ties me, he and I will return and help Fox to kill the deer. He and I eat the seeds and flowers. Let him try the flowers and I will try the seeds."

Fox said, "Tell Hummingbird not to get in the middle. Tell him not to get in the middle. The men had better not travel too fast at first, for they will have plenty of running after we enter the hills." So spoke Chief Fox, when he prepared his hunters. He said to Mountain Lion and to Eagle, "Get ready. Take up certain stations, where the deer come out." He told Wolf to take his station near a place where the deer always come out. "Dove and Hummingbird are to run first," he told Chief Mountain Lion. Chief Fox told his men to get ready, when he prepared to hunt deer. "I see that all of you are willing to hunt," he said.

Brown Wren said, "Coyote and I shall race. I do not think that Coyote can beat me running. When I come home, I will race with California Jay. I will see how fast Jay can run. Jay and I will try each other in a shooting contest, to see who is the better. Jay and I will shoot at each other with arrows to see who can jump about the quicker. If he excels me at jumping, then perhaps he can hit me. I shall shoot four arrows and he will shoot four. I shall give him the first shot. Then I will shoot at him. I do not know who will be next

in the running of races. I fear that Jay will not get out of the way in time, when I use my arrow."

California Jay said, "I do not think that you can hit me. You can try and try. Thus I will sing, when I dodge your arrows. Thus I will do, when I tire you. I do not believe that you can hit me. I eat nothing but acorns. That is what makes me so lively. If I am seated, when the deer come out of the brush, I am not going to arise. I will kill the deer without arising. Thus I will handle the deer, when they come out of the brush. Are you a good dodger? Are you a good dodger? You are going to fight me with the arrow," he said to Brown Wren. "I shall dodge you while I am seated. I shall dodge you while I am seated. I do not think that you can hit me after I have arranged my hair. You can try. You can try, but you will find that I am a good dodger."

Turkey Vulture said, "That is the way I shall do, when I put the deer to sleep. Thus shall I do. Thus shall I do. I shall look for the deer in the hills. Thus shall I do, when I hunt them in the brush. You will find them, when the blood turns into a rainbow. Then you will find them. I shall do my best. I shall do my best to be the first to obtain a deer. If I find dead deer after you return home, I shall eat them." Thus spoke Turkey Vulture. Thus he spoke, as they journeyed into the hills and as he looked for dead animals in the hills. He continued, "I find the dead animals from the high mountains. When I see the blood, I shall come and tell you. When I look for deer, I wheel in one place. When the sun rises, you will see the blood turn into a rainbow." So spoke Turkey Vulture to Fox.

Turtle said, "I will obtain water for the men when they are in the hills. I will obtain water for them, when they hunt. I will obtain water to wash the intestines. I will carry water for the hunters. I always carry water. I do not have to hunt with the men." Thus spoke Turtle, as he returned to the water. "I shall get no deer. I shall get no deer," he said. Turtle always carried water for the hunters. He always carried water. He knows how to carry water. He sings all the while, that he carries water. All that he does is to sing beside the water. He sings that he is to carry water.

Fox told his hunters to go and they all departed. All of the deer passed by Fox. All of the deer passed by Fox. He paid no attention to them, but just watched them. The deer scattered. Each of the other hunters obtained one. Most of the deer passed by Fox. He just watched them until the last came. As the last one approached,

he put his arrow in the bow and shot it. The arrow passed through the deer and penetrated all of the deer that were in line. In four gulches were four different deer that Fox killed. That many deer he obtained with one arrow. The feat showed that Fox was a better hunter than the others.

Then Skunk visited his son-in-law (Fox), while they skinned the deer. He said to his son-in-law, "May I ride on top of the pack, when you carry it?" Thus spoke Skunk to his son-in-law. His son-in-law replied, "You will be too heavy on top of the deer. I have all that I can carry without you." So said Fox to Skunk.

Skunk became angry. He said to his son-in-law, "Don't say that to me. If you don't carry me, I will eject my fluid upon you." Fox retorted, "Don't say that to me. I will kill you. Don't eject your fluid upon me. If you do, I will kill you. I will kill you with an arrow." "Don't say that," said Skunk. "I do not wish to die. There is no one here to help me, if you shoot me with an arrow."

Fox said to Skunk, "Night Hawk has the largest deer in his mouth. Hurry, help me skin this deer, or Night Hawk will get them all. Before we started I told you to leave Night Hawk home." Fox went to prevent Night Hawk from eating the largest deer. Night Hawk told Fox that he had nothing in his mouth. "The only thing I have in my mouth is something which belongs to my uncle. I have nothing of yours in my mouth." So said Night Hawk, when Fox threatened to kill him. Fox threatened to kill him, if he did not return the deer. While Fox was talking to Night Hawk, Skunk skinned the deer.

11. VALLEY QUAIL'S ADVENTURES

"I am going to visit my father," said young Valley Quail, "I am going up the mountain to visit my father. Give me my father's 'poison.'" His father's "poison" consisted of yellowjackets and other stinging insects, which he kept in a bag. "I am going up the mountain," said young Quail.

He tried his father's poison. He said to himself, "I will try it and discover how my father uses it." That is what young Quail said when he saw the deer. He saw a large band of deer. Then he opened his bag of yellowjackets. When he opened it, they flew to the deer and killed them. He killed all of the deer in trying his father's poison.

"No one will bother me," said young Quail. Then he went up the mountains through the deep canyons and forests.

He found Coyote. Coyote saw him and asked him what he carried in the bag. He told Coyote that he carried his father's poison. Coyote did not believe him and told young Quail that he was too small to carry poison. "I think you have something good to eat in that bag," said Coyote. Young Quail retorted, "No, I have nothing good to eat. If I open this bag, you will die. I am taking this poison to my father."

Coyote was not satisfied, but begged young Quail to open the bag. Quail became angry and gave Coyote the bag, telling him to open it and eat what he found within. When Coyote opened it, the yellowjackets flew out and stung him to death. Then young Quail called his poison back into the bag. All of the yellowjackets entered the bag at his request. He proceeded upon his way.

Next he met a bear. He said to himself, "I do not know what I am going to do with that bear. I do not think my poison will kill him. I will try it, anyhow." So saying, he opened the bag. The yellowjackets flew to the bear, to a number of bears under the trees. The yellowjackets killed all of the bears. Then young Quail recalled them.

He did not know which way to go after the yellowjackets had returned to the bag. He was very tired, but he said, "I will continue on my way." Proceeding farther, he found a mountain lion in a large tree. He did not know what to do when he saw the mountain lion. He said, "Mountain lion will eat me, I fear." Then he sat on a rock. He feared to pass the tree in which the mountain lion sat. He said to himself, "I think I shall not reach my father's place. I fear this mountain lion will kill me. I do not know what to do. I think that this animal in the tree is the one my father has always warned me about. I think this is a mountain lion, the kind that slaps people. I fear that I cannot kill him, but I will try." He turned loose his yellowjackets. They killed the mountain lion. After he had killed the mountain lion, he recalled his yellowjackets.

"That is the way I will do to anything that attempts to hurt me." Then he proceeded upon his way. He found a spring between two large rocks. Just as he stooped to drink he saw a mountain sheep. He said to himself, "Mountain sheep is all that my father eats. I think that I will try to kill this one." Then he opened his bag. The yellowjackets flew to the mountain sheep and stung him to death. He went over to look at the mountain sheep after he had killed him. The mountain sheep, being dead, was unable to attack him. Young Quail called his yellowjackets into the bag and went on his way.

After he had gone a distance, he found a rattlesnake. "I do not know what I shall do with him," said young Quail. "I think this is rattlesnake, of which my father has told me. At any rate, I will try to kill him." So saying he opened the bag and sent the yellow-jackets to the rattlesnake. After they had killed the rattlesnake, he called them back, called them back.

After his yellowjackets had re-entered the bag, he journeyed until he came to the immense rattlesnake Hamaua. "I do not know what I shall do now. Hamaua reaches almost a quarter of the distance to my father's place. I fear he will kill me here. I do not know what to do. I do not know what I shall do. I will try to kill him with my father's poison. Then he released the yellowjackets. They killed Hamaua. After he killed Hamaua, he said, "My father always takes the skin of Hamaua. I think I will take it too." He skinned Hamaua. After he had taken the skin, he called the yellowjackets back.

Then he continued up the mountain. He saw another mountain sheep much larger than the one which he had already killed. "I think I will kill that one. I think I will try to kill him. That is a mountain sheep, for which my father always searches."

He next met a band of black bears. He became so frightened that he climbed a tree. "I will try to kill them," he said, "but I fear that I cannot." Then he opened his bag and released his yellowjackets. They pursued the bears and made them run. Then they killed all of the bears. After they had killed the bears, he called them back into the bag and then continued up the mountain.

At last he arrived at his father's house. His father asked, "Who brought you?" Young Quail replied, "I came alone. I felt lonely below. I worried every day about you."

His father asked him if he had not seen something coming up the road. Young Quail replied, "I killed many things." His father asked him if he had seen Hamaua. Then his father asked him if he had skinned Hamaua. He told his father that he had. Young Quail said, "You always told me to test those yellowjackets, when I came to see you. I tried them and killed everything that I saw. I brought this poison to you."

His father asked him what he proposed to do with the yellow-jackets, asked him if he wanted them for himself. "If you want to try my poison, you may do so," his father said. Young Quail then proceeded up the mountain beyond his father's home. He found a bear and killed it in the usual way. His father watched him. At first his father said, "I do not know how he will do it." Then young Quail

turned loose his yellowjackets. His father laughed and asked him if that was what he did as he came up the road. "Who taught you?" asked his father. "How do you recall the yellowjackets?" Young Quail replied, "I recall them. Nobody taught me. I learned by myself. You did not teach me."

Then his father stopped questioning him and told him that he might do whatever he pleased. Young Quail replied, "I will return tomorrow the same way that I came. I just came up to see how you were faring, so that I might stop worrying about you." His father said, "All right, you may return, but I would rather keep you here with me. However, I suppose you like it better below. All right, you may go tomorrow." Young Quail said, "But I will return to see you. I will go back the same way. I shall arrive home sometime if nothing happens to me on the way."

[The story-teller said that young Quail started from his camp on the west side of the San Joaquin River and visited his father, who lived high in the Sierra Nevada.]

STORIES BY WILLIAM FULLER

12. THE THEFT OF FIRE

Lizard saw the smoke. He said: "Smoking below, smoking below, smoking below, smoking below. My grandmother starts a fire to cook acorns. It is very lonely."

Flute-player (Mouse) was sent down the mountains into the valley to secure the fire. Flute-player departed, taking with him two flutes. He finally arrived at the assembly house from which the smoke was issuing. He found it crowded, but he was welcomed and the people persuaded him to play. He played and he played.

Then they put a feather mat over the smoke hole at the top of the house and shut the feathers in the door. They closed the door with the feather dress. They told the doorkeeper to close the door tight.

Flute-man played continuously. The people fell asleep and snored. Flute-player remained awake and played. Finally, he concluded that all were fast asleep. He arose and took two coals from the fire, placing them in his flute. Then he put two coals in the second flute. He proceeded to the door, cut loose the feathers, passed out, and started homeward.

The people awoke to find him gone and with him the fire. Hail and Rain were sent in pursuit, for they were the two swiftest travellers among the valley people. Hail went, but Flute-man heard Hail and Rain coming, so he threw one of his flutes under a buckeye tree. Rain asked him what he had done with the fire. "You stole our fire," Rain said. Flute-player denied it. Then Rain returned home. The placing of the flute, with the coals in it, under the buckeye tree resulted in the fire always being in the buckeye.

When Rain started back, Flute-man took his fire from under the buckeye and again proceeded homeward. He arrived at home safely and brought the fire into the assembly house. He told the people that Rain had taken one flute with coals in it. He said, "Rain took one flute from me. I have only one left."

The chief told Flute-player to build a fire, and the latter produced the coals from his remaining flute. A large fire was made. It was then that people lost their language. Those close to the fire talked correctly. The people at the north side of the assembly house talked brokenly. Those at the south side talked altogether different; so did those at the west side and at the east side. This was because of the cold.

Coyote brought entrails and threw them on the fire, extinguishing it. The people became angry and expelled Coyote, telling him to remain outside and to eat his food raw. That is why Coyote always eats his meat uncooked.

13. BEAR AND THE FAWNS

"Sister-in-law, let us hunt grass," said Bear. "Let us go," said Deer. After they had gone a distance, Bear said, "Let me louse your head. Let me bite the lice." Bear bit Deer so that she died.

Deer had told her Fawns before she left that a bag hung in the house. She told the Fawns: "If your aunt, Bear, harms me, bites me, that bag will fall from where it hangs." The bag fell. Then the Fawns saw their aunt returning. After she entered the house, they started to search her basket. She said to them crossly, "You are always looking for something to eat. You are always hungry. Keep away from that basket." They kept searching, however, and found their mother's liver. They cried, "Liver, liver."

Later the Fawns and the Bear Cubs played in a hole [sweat house?], fanning smoke into each other's faces. First the Cubs fanned the Fawns. "When we call, you must stop fanning," said

the Fawns. After the Fawns had been smoked, they told the Cubs to enter. The Fawns then fanned the Cubs in the hole. The smoke became too dense and the Cubs called to the Fawns to cease. They only fanned the harder until the Cubs were suffocated.

"Mother, mother, liver; mother, mother, liver; mother, mother, liver," cried the Fawns. Their aunt, Bear, said, "What is the use of talking about your mother. She is camping for the men." The Fawns only cried the more, "Mother, mother, liver." "Stop saying that, or I shall bite you," said Bear. "Your mother is still camping."

"Grandchildren, for whom are you searching?" said the Lizard. The Fawns replied, "Grandfather, we are hunting for our mother. Grandfather, will you show us the door of your house? Our aunt wants to kill us. Mother, mother, mother, mother. Grandfather, let us in on the east side of your house, on the south side." Their grandfather finally let them in.

Bear arrived at Lizard's house after the latter had taken in the Fawns. She called, "Nieces, where are you? I am looking for you. Please let me in quickly." She tried to enter, asking repeatedly where the door was located. They told her to go to the top of the house. "The door is right on top of the house," they said.

Meanwhile they heated a stone in the fire. They said to Bear: "Open your mouth wide and come down through the smoke hole." As Bear entered with her mouth open, they shoved the red-hot stone down her throat. She died in agony, being burned to death from within.

14. YAYALI, THE GIANT

"Where are you, grandchild? Where are you, grandchild? Where are you? Where are you? Yes. Yes. I am lost. Where are you? This way. Where are you, grandchild? Someone comes. Look out. Get ready. Prepare yourself, for Yayali comes."

The people broke cones from the tops of the pine trees and bundled these together. As Yayali started to climb the declivity where the people had taken refuge, they set fire to the bundles of pine cones and threw them into Yayali's burden basket. They threw the burning cones into the basket. Yayali became so hot that he tumbled. "Which way shall I fall?" he asked. They told him to fall to the north.

[The Giant met his death near Columbia, Tuolumne County. The informant has seen white rocks near Columbia, reputed to be the bleached bones of the Giant.]

ABSTRACTS

1. *The Theft of Fire.* Geese and others gather in an assembly house in the hills. They lack fire. Lizard discovers fire emerging from an assembly house in the valley. Flute-player (Mouse) goes to steal fire. He finds the entrances of the assembly house guarded by Bear, Rattlesnake, Mountain Lion, and Eagle. He enters through the smoke hole by cutting the feathers of Eagle's wing. He fills with fire four flutes with which he escapes. On the homeward journey he is pursued by Rain and Hail. Hail catches him, but Flute-player has concealed his flutes in the water and denies having the fire. He is met by Coyote, who has become impatient. After his arrival, Flute-player plays his flutes on top of the assembly house, dropping coals through the smoke hole. Coyote interrupts him before he finishes. Because of the interruption, some people receive no fire. Those in the middle of the assembly house receive fire, cook their food, and talk correctly. Those on the sides (distant tribes) receive none, eat raw food, and talk differently.

2. *Bear and the Fawns.* Bear invites her sister-in-law, Deer, to gather clover. They louse each other. Bear kills Deer by biting her neck, eats her, and takes home the liver in a basket of clover, which she gives to Deer's two daughters. The Fawns recognize the liver and decide to escape. They take with them their mother's baskets, awls, and brushes, which they throw off the trail as they flee. As Bear pursues, these objects whistle and decoy her from the trail. The Fawns cross a river on the stretched leg of their grandfather, Daddy Longlegs. When Bear crosses, he withdraws his leg and she falls in the river. The Fawns reach the assembly house of Lizard, another grandfather, who shelters them and heats two white stones. On Bear's arrival she is told to enter through the smoke hole with her mouth open and eyes closed. Lizard then throws the hot stones down her throat. After her death, he dresses her hide and cuts it. The larger piece he gives to the older Fawn, the smaller piece to the younger. He tells them to run and discover the sound they make. The smaller hide makes the louder noise. When they run against a tree, the younger Fawn shatters it more completely. Lizard send the Fawns above and they become Thunders.

3. *Yayali, the Giant.* The Giant enters the hills in search of human victims. Chipmunk, imagining that his wife's brother approaches, answers the Giant's calls. As he brings the Giant to his assembly house the latter kills him with a stone from his burden basket. Chipmunk is eaten by the Giant, who marries his widow. She hides Chipmunk's daughter in a pit, feeding her venison. The woman pretends to eat the human flesh and pine nuts obtained by the Giant, but in reality eats only venison and pine nuts obtained by Chipmunk. She gives birth to two giants.

Chipmunk's brother dreams of him and visits him. He finds the doors of Chipmunk's house blocked with boulders to prevent the escape of Chipmunk's widow. Chipmunk's brother prepares to kill the Giant. He digs holes and sharpens a manzanita stick. He sends his sister-in-law to her father. She takes her daughter and a deer skin of crushed obsidian. The Giant returns and tries to capture Chipmunk's brother, who escapes by jumping into his holes. He tells the Giant that he will allow himself to be captured after the Giant dances. From the roof he decapitates the Giant, whose head projects through the smoke hole when he dances.

The Giant's brothers, following a dream, visit their brother's house and unknowingly eat his flesh which Chipmunk's brother has scattered about on trees and rocks. The youngest Giant discovers his brother's head. Following dreams, the Giants pursue Chipmunk's widow, who escapes repeatedly by throwing crushed obsidian in their eyes. She reaches the house of Lizard, her father, who spits on the house and turns it to stone. He calls upon the wind, the snow, the hail, and the flood to destroy the Giant's brothers. They blow back the wind, melt the snow by shouting, and stop the hail by shouting. The flood drowns them.

4. *The Making of Arrows.* Two brothers, Prairie Falcon and Dove, decide to hunt, but lack weapons. They throw their grandmother into the water, taking her tooth for a knife and pulling sinew from her limbs. They make a bow and arrows. Their grandmother enters the water and becomes Beaver. The two brothers have a contest, shooting twice to the east end of the world, and twice to the west end. The arrows strike together. The brothers race to them, both running at the same speed. The second time that they shoot west the arrows strike in a bush, the root of which they eat while digging.

Their grandmother causes the water to drown Prairie Falcon. Dove rolls about the country crying for his dead brother and bruising and cutting himself. He meets Spark, whom he sends to visit the old woman, who is crushing bones. A small bone flies forth which Spark seizes and places on an arrow. He shoots it to Dove, who picks it up. The point transforms itself into Prairie Falcon, who cries over his brother Dove's injuries. The various birds contribute one feather apiece with which Dove is rehabilitated. The brothers travel about the world visiting the rocks which bruised Dove. They fail to secure the return of their grandmother, who remains in the river as Beaver. Thenceforth all people make arrows.

5. *Prairie Falcon's Marriage.* Chief Prairie Falcon marries Green Heron's daughter, also Meadowlark. Chief Eagle takes Meadowlark. Prairie Falcon in anger travels about the world. He threatens to kill his unfaithful wife if she follows him, but changes his mind when his sister says that his wife will save his life. Returning, he visits his sister, who tells her husband, Lizard, to restrain his dogs, which are rattlesnakes and bears.

Prairie Falcon starts for the place where his father died. He wife follows. He goes south. Upon his return he finds that his wife has followed him, so he sets out to overtake her. Together they visit his father, Owl. Lizard throws fire, causing a conflagration. Prairie Falcon escapes by flight. His wife escapes by pulling two hairs, which become a lake, in which she submerges herself. Aided by the winds, Prairie Falcon and wife pass through a hole which closes and opens. At his father's village, he finds that Chief Mountain Sheep's people wish to play games with him, the loser to forfeit his life. Chief Mountain Sheep demands the loan of Prairie Falcon's wife and sends in exchange another woman with whom Prairie Falcon declines to sleep. Prairie Falcon objects to sending his wife to Mountain Sheep's house, and in vain offers a string of beads in lieu of her.

Gopher aids Prairie Falcon by digging tunnels on Mountain Sheep's side of the field. Following football games which Prairie Falcon wins, he shoots Mountain Sheep.

He tells his sister that he killed the people at the other village. She tells him not to speak thus in the presence of Lizard. Prairie Falcon is offended and leaves home, going to his father-in-law, Green Heron, and remaining two days. His father, Dove, and Coyote urge him to marry a girl with whom he has been going.

6. *The Flood.* Chiefs Prairie Falcon and Eagle and their people take refuge upon a high mountain to escape a flood. Coyote is unable to go because he has lost a leg. He escapes by clinging to a log. On the mountain dwells Rattlesnake. The waters rise higher, necessitating a second flight. Flicker carries Rattlesnake, who bites him. Rattlesnake is dropped and drowns. The refugees find a piece of dry land. The entire world is flooded. Prairie Falcon sends forth Dove to discover if human beings survive. Later Prairie Falcon sends forth Dove and Hummingbird to bring mud. He tells them not to eat seeds or suck flowers.

7. *The Repeopling of the World.* Following the flood there are no human beings. All have drowned. Chief Eagle asks Coyote to resurrect mankind. Coyote does so by singing many days, following the advice of a skeleton which appears in a dream.

8. *The Search for the Deer.* The deer hide themselves in various caves in the mountains. The people starve. The hunters, Mountain Lion, Fox, Wild Cat, Black Fox, and Crow, search in vain for deer. Crow does not return. Others search for him. A second Crow, brother of Crow who fails to return, searches for him and for the deer. From a mountain top he discovers the deer in a cave. The people surround the cave and young Mountain Lion enters to start the slaughter. He faints from the heat and his father, Chief Mountain Lion, rescues him. All deer escape. Some people die of starvation. None return home because weak with hunger. Chief Mountain Lion proceeds homeward alone. He meets Skunk, who demands a ride on his back, agreeing to save the lives of some of the people. The Chief gives him a ride. Skunk tells the Chief that he does not care if all of the people die, so long as he rides across the river. The chief pretends to stumble. Skunk falls into the river and drowns. Across the river the chief meets the first Crow descending a hill with deer. The remaining people are saved.

9. *Salamander and Chipmunk.* Salamander tells Chipmunk that he failed to obtain a big deer. Chipmunk sets out in search of his father. He meets two Deer women, who capture him and take him to the sky. Their father throws ropes to them with which to lash Chipmunk. Chipmunk refuses to eat seed. He kills their father after fattening him by singing. Two of Chipmunk's brothers, Brown Bird and Tuyipitina, search for him in vain. His older brother climbs to the sky and rescues him. The two brothers escape by clinging to arrows which strike at their home. At home Chipmunk builds a fire into which he throws Salamander, whom he blames for his troubles.

10. *Lizard and Fox.* Lizard goes below to eat worms. Tarantula tells him to be sure to return, as Fox is to hunt. Fox assembles the hunters. Each boasts of his prowess and of what he intends to do in the deer hunt. Mountain Lion, Mountain Quail, Bald Eagle, Wolf, Coyote, Crow, Skunk, Dove, Hummingbird, Brown Wren, California Jay, and Turkey Vulture participate in the hunt. Turtle promises to carry water for the hunters. Fox orders that Night Hawk be left home, for fear that he might swallow the largest deer whole. Races between Dove and Hummingbird and an arrow-dodging contest between Brown Wren and Jay are discussed.

Each hunter obtains one deer. Fox waits until the last deer are passing. With one arrow he kills four deer in four canyons. While they skin the deer, Skunk visits his son-in-law, Fox, and asks that he be allowed to ride on top of the pile which Fox is to carry. While Skunk and Fox threaten to shoot each other with their fluid and arrows respectively, Night Hawk takes the largest deer in his mouth. When accused of theft by Fox, Night Hawk denies it.

11. *Valley Quail's Adventures.* Young Valley Quail visits his father in the mountains. He carries in a bag his father's "poison," which consists of yellow-jackets and other stinging insects. At his bidding the insects kill various animals. Coyote insists that he has food in his bag. Quail allows Coyote to open it and the insects sting him to death. Other creatures killed are deer, bears, mountain lions, mountain sheep, rattlesnakes, an immense fabulous rattlesnake named Hamaua, and black bears. Valley Quail's father is surprised that his son arrives safely. His son demonstrates his use of the poison. He plans to return on the following day.

12. *The Theft of Fire.* A brief version of 1, also accounting for buckeye fire drill.

13. *Bear and the Fawns.* A brief version of 2, plus suffocation of Bear Cubs.

14. *Yayali, the Giant.* A very brief version of 3, in which Giant is burned to death.

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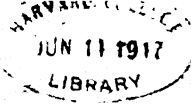
May 28, 1917



CALIFORNIA KINSHIP SYSTEMS

BY
A. L. KROEBER

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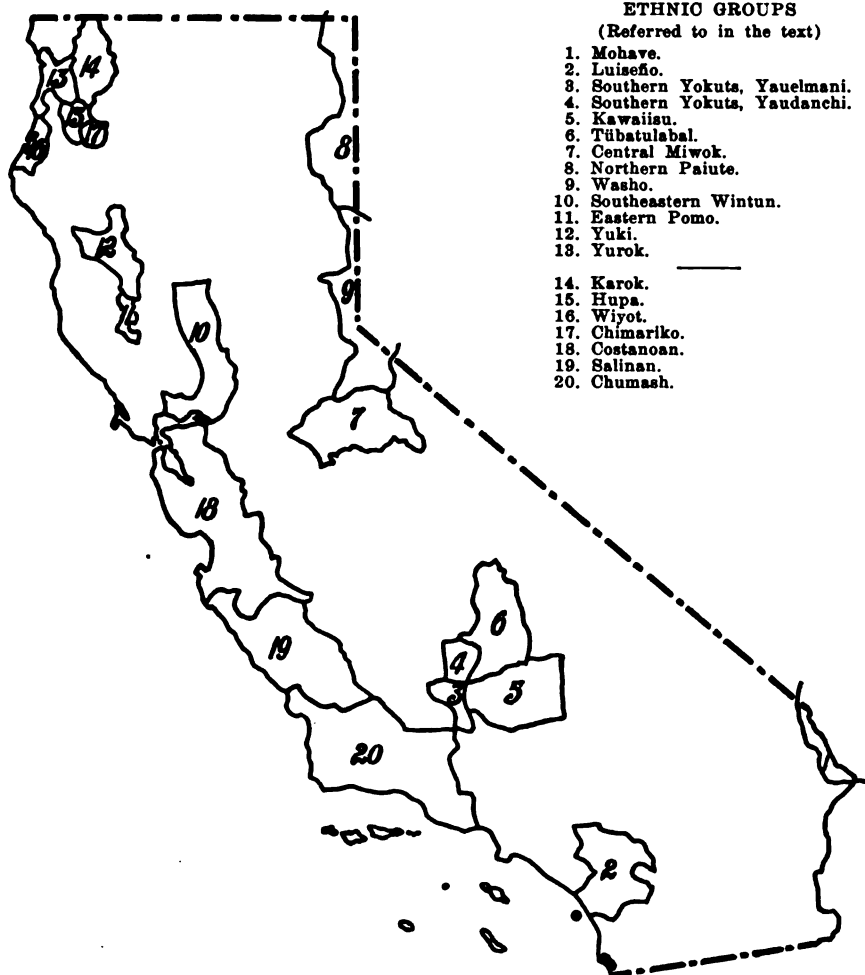
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A. L. KROEBER

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INTRODUCTORY

The following systems of relationship designation were collected at intervals during the last fifteen years, but mostly before 1908, in the course of various field studies of the California Indians. They are in most cases unsupported by genealogies or concrete records; probably the majority of the lists are not wholly exhaustive; and in a few instances the data may not be entirely correct. I have long hesitated to publish this material. But it happens to represent all ethnic provinces and parts of the state, except the northeastern corner, and therefore permits of distributional inferences; and it furnishes a basis for the consideration of certain theoretical problems; in addition to which, information on kinship in California has become a need in wider comparative studies. I therefore present the data, trusting that they will be of service in spite of their imperfections.

MOHAVE

The Mohave system is an elaborate one. It contains a considerable number of terms; and the principles according to which these are applied are sometimes complex. *N-* or *ny-* denotes "my." A faint initial *h-*, of the same meaning, has been omitted from most words not beginning with *n-*.

Parent Class

N-akut-k, father of a male.

N-a'ai-k, father of a female.

N-tai-k, mother.

H-uma-i-ch, man's son. Compare *humara*, child.

Vuchi, man's daughter.

Ith'au, woman's son or daughter.

Iki-ch-k, man's stepfather; reciprocally,¹ man's stepson; also, father's mother's brother, mother's mother's brother, and reciprocally a man's sister's child's

¹ Reciprocity is *logical* or *conceptual* between terms that are complementary in meaning; as, Mohave *namoik*, mother's younger sister, and *inoik*, woman's older sister's child. Reciprocity is *verbal* only in Zuñi *nanna*, grandfather and grandson, because the complementary *concept* to grandfather is not grandson but man's grandchild. Reciprocity is *conceptual* and *verbal* in Yokuts *t'uta*, mother's mother and woman's daughter's child. Reciprocity is *conceptual* and *approximates verbal completeness* in Luiseño *tu'*, mother's mother, and *tu'-mai*, woman's daughter's child, in which *-mai* is a diminutive. Terms which are conceptually and verbally reciprocal may be designated as *self-reciprocal*. Conceptual reciprocity without verbal identity is commonest between relatives separated by one generation, most frequently in the uncle class, but also in the parent and parent-in-law groups. Verbal reciprocity, identical or derivative, is usual only between relatives that are of the same generation or separated by two or more generations, especially those in the grandparent and brother-in-law

child; also a man's younger brother's son's son and a woman's younger sister's son's son; also a man's son's son's son, and father's father's father's father, that is, great-great-grandson and great-great-grandfather reciprocal in the male line. *Iki-ch-k* is a term used chiefly by males of males; it never denotes a person of one's own generation; and it always implies remote kinship—a lineal relative four generations distant, a collateral relative two generations away, or a man one generation removed who is not a blood relative at all.

A man's stepmother and a woman's stepson are denoted by *unyi*, whose full range of meanings is given under terms of the parent-in-law class. What a woman calls her step-parents, or what either a man or a woman calls a step-daughter, I did not learn.

Brother Class

Inchien-k; older brother; older sister; father's younger brother; woman's father's sister's son or mother's brother's son, that is, male cross-cousin of a woman; man's father's father's father's younger brother's son's son's son, that is, a man's male third cousin in the pure male line of descent, sprung from the younger of two brothers; also, a man's son's son's son, that is, his great-grandson in the male line. The last two meanings are evidently connected, since third cousins are great-grandchildren of brothers.

Isu-ich-k, younger brother; man's older brother's son (and daughter?); man's male third cousin in the male line, sprung from the older of a pair of brothers; father's father's father. In the last two senses *isu-ich-k* is reciprocal to *inchien-k*.

Inya-k, younger sister; man's father's sister's daughter or mother's brother's daughter, that is, female cross-cousin of a man, reciprocal to the corresponding usage of *inchien-k*.

Oyavakiau-k, man's paternal half brother or half sister.

Tav'alyvi-k, man's maternal half brother or half sister.

If any separate terms for a woman's half brothers and sisters occur, they have not been recorded.

Grandparent Class

N-apau-k, father's father.

N-akweu-k, mother's father.

N-akau-k, mother's mother; also her sister.

N-amau-k, father's mother; also her sister; also the father's father's sister. If the last meaning is not an error, the generic meaning of *n-amau-k* is: female relative of grandmother generation on the father's side. It might be inferred that *n-akweu-k* analogously denoted males two generations older on the mother's side; but the relationship of mother's mother's brother is expressed by *iki-ch-k*, whose primary meaning seems to be step-father.

A'ava-k, son's child, and therefore reciprocal to *n-apau-k* and *n-amau-k* jointly; also, a woman's father's brother's son; man's father's brother's son or daughter; woman's brother's or sister's son's child.

classes, but occasionally between brothers and sisters also. The foregoing, at least, are the tendencies in California, with exceptions occurring chiefly in the extreme southern part of the state. On the whole, the distinction seems to be adhered to in other regions also, but precisely to what degree remains to be determined. Reciprocity that is verbal but not conceptual is very rare or wanting in California. In general, therefore, it may be stated that reciprocity is always conceptual in this area and frequently verbal also.

Ahko'o-k, woman's daughter's child, reciprocal to *n-akau-k*; also, woman's mother's sister's son and man's mother's sister's son or daughter; woman's sister's daughter's son; and, presumably, by analogy with *a'au-va-k*, any child of any nephew of a woman, though this wider meaning was not recorded.

Ahkyo-k, man's daughter's child, reciprocal of *n-akweu-k*. It is not certain that this term is distinct from the last.

There is a curious change of generations implied in the primary or simplest meanings of the terms used to denote relatives beyond the grandfather. Thus in the pure male line:

Grandfather, *n-apau-k*, is father's father.

Great-grandfather, *isu-ich-k*, is younger brother.

Great-great-grandfather, *iki-ch-k*, is stepfather or grandfather's brother.

Uncle Class

N-avi-k, father's older brother; also, father's father's younger brother; also, of two male second or fourth cousins related wholly in the male line, the descendant of the younger brother calls the descendant of the older brother by this term, reciprocally to *ivet-k*; but as between third cousins the corresponding terms are *isu-ich-k* and *inchien-k*.

The father's younger brother is called one's own older brother.

N-athi-k, mother's older sister.

N-amoi-k, mother's younger sister.

N-akwi-k, mother's brother.

N-api-k, father's sister.

Ivet-k, man's younger brother's child or woman's younger sister's child, and thus reciprocal to *n-avi-k* and *n-athi-k* jointly; also, male second or fourth cousin related wholly in the male line and descended from the older of two brothers—reciprocal in this sense to *n-avi-k*.

A man's older brother's child is called *isu-ich-k*, "younger brother," reciprocal to *inchien-k*, older brother or father's younger brother.

Inoi-k, woman's older sister's child, reciprocal to *n-amoi-k*.

Evany-k, man's sister's child, reciprocal to *n-akwi-k*.

Emarepi-k, woman's brother's child, reciprocal to *n-api-k*.

Parent-in-Law Class

Nya-halye'au-k, man's daughter's husband, wife's father; that is, self-reciprocal term for father-in-law and son-in-law used by males only.

Unyi-k expresses all remaining relationships in this class, besides several others. It denotes: woman's father-in-law; woman's son-in-law; mother-in-law; daughter-in-law; husband's brother or sister; brother's wife; man's stepmother; woman's stepson.

Itmumavenya, said to mean "who eats with you," is used in place of *unyi-k* after the death of the connecting relative, at least in the cases, and they constitute the majority, when this person was a male.

Brother-in-Law Class

Amily-k, wife's brother, man's sister's husband; that is, self-reciprocal term used by brothers-in-law. This term is also used by men to denote the husband of any collateral female relative.

Inya-huvi-k, wife's sister; woman's sister's husband. Self-reciprocal.

The remaining four of the eight relationships in this class are expressed by the blanket term *unyi-k*. The Mohave make the general statement that a man calls any female relative by marriage *unyi-k*, and is so called by her. This is nearly true: the only exception is *inya-huvi-k*.

All affinities by marriage are expressed by the foregoing four terms, whose range, however, is very unequal, as a summarization reveals:

Male connections of a man { of his own generation *amily-k*;
 of another generation *nya-halye'au-k*.
 A woman's husband and her sister call each other *inya-huvi-k*.
 All other male connection of a woman }
 All other female connections of a man } *unyi-k*.
 All female connections of a woman }

Husband and Wife

Ichu-ich, husband.

Nya-ha'aka-ch, wife.

Cousins

I obtained three terms for cousins:

Dhohumi-k, man's father's brother's son.

Chasumav-k, woman's mother's sister's daughter.

Chakava-k, man's father's sister's son or mother's brother's son; that is, a self-reciprocal term between male first cross-cousins.

The Mohave terminology for cousins is as interesting as it is complex. Besides the foregoing three specific terms, there are four others from the brother and grandchild classes; but parent and uncle terms, which are found in certain other Californian languages, and among a number of Eastern tribes, are not employed. The following tabulation brings together all the data.

Children of Brothers

Male calls { male, *dhohumi-k*;
 female, *a'ava-k*, son's child.
 Female calls { male, *a'ava-k*;
 female, not obtained; analogy suggests *a'ava-k*.

Children of Sisters

Male calls { male, *ahko'o-k*, daughter's child;
 female, *ahko'o-k*.
 Female calls { male, *ahko'o-k*;
 female, *chasumav-k*.

Children of Brother Call Children of Sister

Male calls { male, *chakava-k*;
 female, *inya-k*, younger sister.
 Female calls { male, *inchien-k*, older brother;
 female, †

Children of Sister Call Children of Brother

Male calls { male, *chakava-k*;
 female, *inya-k*.
 Female calls { male, *inchien-k*;
 female, †

Briefly, the children of brothers call each other "son's child," except that a special term is used when both are males; and the children of sisters call each other "daughter's child," except that another special term is used when both are females. Cross-cousins of opposite sex denominate each other "younger sister" and "older brother," according to sex; the "younger" and "older" seem quite fixed irrespective of the actual ages of the persons or the age or sex of their parents; that is, a man's female cross-cousin is always his younger sister, and a woman's male cross-cousin is always designated as a brother older than herself. Male cross-cousins denominate each other by a special term. For female cross-cousins there is unfortunately no information. The basis of this remarkable plan is that cross-cousins call each other brothers and sisters, parallel cousins designate each other as grandchildren, and specific cousin terms are restricted to the cases in which all the persons involved in the relationship are of the same sex or in which the children of brother and sister are of the same sex.

The terminology used between remoter cousins is equally extraordinary. This has been obtained only for the male descendants of two brothers.

Brothers	Older	Younger
First cousins	1	2
Second cousins	3	4
Third cousins	5	6
Fourth cousins	7	8

- 1 calls 2: *dhohumi-k*;
- 2 calls 1: *dhohumi-k*.
- 3 calls 4: *ivet-k*, man's younger brother's child;
- 4 calls 3: *navi-k*, father's older brother.
- 5 calls 6: *inchien-k*, father's younger brother;
- 6 calls 5: *isu-ich-k*, man's older brother's child.
- 7 calls 8: *ivet-k*, man's younger brother's child;
- 8 calls 7: *navi-k*, father's older brother.

Fifth cousins, it may be surmised, call each other like third cousins.

All these terms are conceptually reciprocal.

It will be noted that the actual age of any cousin is immaterial. The terminology is fixed by the respective ages of the brothers from whom the reckoning starts.

On this basis, and the assumption that uncle-nephew terminology is to be employed, it seems natural that the allotment of names between second cousins is on the plan that the descendant of the older brother is the "uncle"; but it is surprising that between third cousins it is the descendant of the same older brother who is reckoned the nephew.

The explanation may be in the fact that *inchien-k* means older brother as well as father's younger brother, and that therefore I apply to my father's brother (if he is the junior) the same term which he applies to my father. Something of the idea inhering in this terminology appears to have been extended along the descending line of cousins, with the result that whatever my cousin of my own generation calls me, I call his father or my son calls him,

for *inchien-k* or *navi-k*; whereas for *isu-ich-k* and *ivet-k*, my father calls him or I call his son whatever he calls me. Thus:

$y > o, 1 > y$: *inchien-k*

$5 > 6, 6 > 4$: *inchien-k*

$4 > 3, 5 > 4$: *navi-k*

$6 > 5, 5 > 8$: *isu-ich-k*

$7 > 8, 6 > 7$: *ivet-k*

and, it may be suspected,

$2 > 3$: *ivet-k* as $3 > 4$

$9 > 8$: *navi-k* as $8 > 7$

Reciprocity

Reciprocity is very strongly developed in the Mohave system. It is manifest in practically every class of terms.

Self-reciprocal, that is, reciprocal both conceptually and verbally, are *iki-ch-k*, with a wide variety of meanings, but all falling into pairs that are exactly complementary; *unyi-k*, of which exactly the same can be said; the three other terms for connections by marriage: *nya-halye'au-k*, *amily-k*, and *inya-huvi-k*; the three specific cousin terms; and *a'ava-k* and *ahko'o-k* as used between cousins.

Conceptual reciprocity without verbal identity occurs in the terms used between parents and children; between grandparents and grandchildren; between all uncles or aunts and their nephews and nieces, and between brother and sister terms as used by cross-cousins. The only irregularity is that, in the grandparent class, *a'ava-k*, son's child, is reciprocal to both *n-apau-k* and *n-amau-k*; and similarly in the uncle class, *ivet-k* to *n-avi-k* and *n-athi-k*.

The only terms that are not reciprocal are the three for brothers and sisters, when used in that fundamental and unextended sense; and possibly those for half brothers and sisters.

A similar degree of reciprocal expression seems to pervade the kinship system of the Papago of southern Arizona. Except for Yurok and Wintun, all known systems in California are more or less reciprocal; but none are so extreme in this respect as Mohave.

Relation to Clan System

The Mohave possess a clan system similar to that of several other Yuman tribes. It is patrilinear, exogamic, and totemic, though its totemism is veiled: the clans themselves have no names, but all the women of one clan bear the same name, which carries a totemic implication or connotation.

I am unable to discern in the kinship terminology any definite reflection of the division into exogamic units. The cousin nomenclature is an example. With unilateral descent, if the children of brothers are of the same clan, the children of sisters must normally be of different clans; yet the actual terminology is exactly parallel. The children of brother and sister, again, must necessarily belong to different clans; yet it is only these that cousins brother-sister names are applied.

The frequency with which the sex of an intermediate relative is denoted by Mohave terms may seem an indication of the unilateral reckoning of descent in the clan system. But this is offset by the instances in which collateral kindred are not merged in lineal, as is often supposed to be the normal practice where exogamic groups prevail.

The partrilinear reckoning of the Mohave, on the other hand, may have led to their making certain distinctions among males that are not made for females. Thus there are two words for father, only one for mother; a man uses different words to denote his son and his daughter, a woman only one. The primary meaning of the generic term *iki-ch-k* seems to be stepfather, whereas the only word for step-mother is *unyi-k*, whose fundamental denotation is a female affinity or the affinity of a woman. The terms of the parent-in-law and brother-in-law classes reveal a marked asymmetry in favor of males. There are two words denoting the male affinities of males, and only two to express the three times as numerous female affinities of females and those between males and females.

The terms which my informant, who, although a man, was assisted by several women, failed to mention are in every case those used by women or applied to them: stepdaughter; woman's step-parent; woman's half-brother or sister; woman's female cross-cousin; second or remoter cousin, either female or descended wholly or partly from females. Since all the parallel terms for males were usually volunteered, it appears that the Mohave think and express themselves first in terms of male lineage.

There are only two cases of the finer distinction being drawn on the female side. The daughter's son and her daughter are distinguished, the son's children classed together. There is a term for mother's younger as well as mother's older sister, but the father's younger brother is merged in one's own older brother, and the same for the reciprocals.

GENERAL FEATURES

Apart from the overwhelming inclination toward reciprocity, the distinctive features of the Mohave kinship system are the following:

Relatives of the most diverse generations are denoted by the same terms. This is not on the plan of many American systems that if I call a relative, such as an uncle, by a certain name, I apply the same name to his son, grandson, and so on *ad infinitum*, that is, to my cousin, cousin once removed, and the latter's descendants; or that the word for grandfather is simply made to include the great-grandfather. The principle or principles followed in Mohave remain rather obscure; but the one point emerges with certainty, that the Mohave are normally at pains to use terms of the most clearly discrete significance as to generation, for their kin of adjacent generations. Thus first cousins are called grandchildren, not uncles; the great-grandfather is denominated younger brother; and so forth. It would seem that, the wider the leap, the more satisfactory the terminology; possibly because an element of confusion is thereby minimized. In fact, it might almost be said that it is only in a technical and narrow sense of the word that there is ignoring of generations.

As regards the distinction of collateral from lineal relatives, the Mohave are unusually precise at several points. Parallel uncles and aunts are not merged with the father and mother, nor nephews and nieces with children. Three-fourths of all cousins are designated by terms other than brother and sister.

Sex of the intermediate relative is specified in practically all words into which this factor can enter: grandparents and grandchildren; terms of the uncle and aunt class; cousins; and half brothers and sisters. Some may see in this prevalence an influence of the clan system. To me it seems rather associated with the tendency toward reciprocity.

Expression of both the sex of the speaker and the sex of the relative denoted tends to lead to a great multiplicity of terms if consistently carried out in a reciprocating system, especially in the grandparent and uncle terms. The Mohave solve the problem in the usual way: they express one category in the terms applied to the younger relatives, the other category in those for the older relatives. Both factors are specified in the self-reciprocal terms of the stepfather, cousin, parent-in-law, and brother-in-law classes, and in those used between a father and his children; whereas the term for older brother-sister,

the word *unyi-k*, and a few of the nephew-niece and grandchild designations—especially if their extended meanings be included—are wholly indeterminate as to sex.

The distinction of absolute age within one and the same generation follows an irregular course. It occurs between brothers and sisters; is lacking for half brothers and sisters when these are specified as such; is made for parallel uncles and aunts and disregarded for cross ones, and the same for their reciprocals; is wholly wanting among first cousins; but always, though indirectly indicated, so far as the evidence goes, for remoter cousins.

Affinities by marriage are never merged with blood kin. *Iki-ch-k* would be an exception if the stepfather relationship were counted as belonging to the former group.

From the point of view of development of terminology for the several natural groups of kindred, salient features of the Mohave system are the consolidation of designations for marriage connections into a very few words, and the development of an elaborate nomenclature for cousins, including at least three specific terms in a total of seven or eight employed for first cousins.

LUISEÑO

The Luiseño are of Shoshonean stock, but live in an entirely different social environment in their southern California home from the distantly allied Tübatulabal and Kawaiisu of the Sierra Nevada, whose kinship systems have been described by Mr. E. W. Gifford,² and from the still more remote Northern Paiute treated of in the present paper.

The Luiseño terms are not used in their absolute forms as here given. In actual speech they occur only with possessive prefixes, such as *no-*, "my." The ending *-mai* is a diminutive.

The system has been recorded independently and without discrepancies of moment by the late P. S. Sparkman and myself. The former's list of remote and extended applications of terms is somewhat fuller.

Parent Class

Na', father.

Yo, mother.

Ka-mai, son.

Shwa-mai, daughter.

² Present series, XII, 219-248, 1917.

Brother Class

Pash, older brother.

Kes, older sister.

Pet, younger brother.

Pit, younger sister.

Grandparent Class

Ka', father's parent; also, brother of the father's father and sister of the father's mother; also, woman's father-in-law, and, reciprocally, man's daughter-in-law; also, woman's daughter-in-law; also, man's brother's son's wife and woman's sister's son's wife, that is, parallel nephew's wife.³

Ka'-mai, reciprocal to *ka'* so far as this denotes persons of the grandparent generation; that is, son's child, man's brother's son's child, woman's sister's son's child.

Kwa, mother's father; mother's father's brother.

Kwa-mai, reciprocal to *kwa*; that is, man's daughter's child, man's brother's daughter's child.

Tu', mother's mother; mother's mother's sister.

Tu'-mai, reciprocal to *tu'*; that is, woman's daughter's child, woman's sister's daughter's child.

Piwi or *piwai*, great-grandfather or great-grandmother, apparently in any lineage.

Piwi-mai, reciprocally, any great-grandchild.

Sosa, great-great-grandparent or great-great-grandchild.

Yuto, a person removed one generation farther than the *sosa*.

Taula, one generation more distant than *yuto*, that is, great-great-great-grandparent or child.

The terms for ancestors or descendants from three to six generations removed are evidently convenient devices for expressing the lapse of generations, and little else. They completely ignore the factor of lineage which is denoted in the grandparent terms; are sexless; and, it may be surmised, are applied indiscriminately to lineal and collateral kindred. It would be interesting to know their etymologies.

Kek, grandmother's brother; grandfather's sister; reciprocally, man's sister's grandchild, woman's brother's grandchild; also, man's brother's or woman's sister's child's spouse. Specific terms for kindred removed by three steps of relationship—other than of the speaker's own generation or three generations lineally removed from him—are rare the world over. This particular term is so far unparalleled in California.

Uncle Class

Kmu, *kamu* (*nu-kmu*, *cham-kamu*), father's older brother.

Kmu-mai, *kamu-mai*, reciprocal, man's younger brother's child.

Mash, father's younger brother; also, stepfather.

Mai-mai, or *me*, reciprocal, man's older brother's child; also, man's stepchild.

Nosh, mother's older sister.

Nosh-mai or *nos-mai*, reciprocal, woman's younger sister's child.

Yos-mai (evidently from *yo*, mother), mother's younger sister; stepmother.

Kuli-mai, reciprocal, woman's older sister's child; woman's stepchild.

Tash, mother's brother.

³ Sic, in the data available, although this signification overlaps one of those given for *kek* below, namely, parallel nephew-niece's spouse.

Mela (compare *mai-mai*, *me*), reciprocal, man's sister's child.

Pa-mai, father's sister.

Ali-mai or *ala-mai*, reciprocal, woman's brother's child.

Parent-in-Law Class

Kwa pa-na, man's father-in-law; man's son-in-law. Self-reciprocal. The literal meaning is "my daughter's child its father." The term therefore really denotes the son-in-law, and its apparently absurd application to the father-in-law must be due to a conventional extension under the influence of the tendency toward reciprocity.

Tu' pa-na, man's mother-in-law; woman's son-in-law. Self-reciprocal. Literally, daughter's child's father. The secondary application is again to the older person. An extended meaning is woman's sister's son-in-law.

A woman calls her father-in-law *ka'*, paternal grandparent. Possibly this stands for "my child's father's parent." The father-in-law in turn, and the mother-in-law also, apply the same term *ka'* to their daughter-in-law.

A woman calls her mother-in-law *ka' shungal*, "father's parent woman," or, "father-in-law woman." It is not certain that the qualifying *shungal* is always added.

Na-hwa, parent of child-in-law (like Yokuts *makshi*, Miwok *makst*). The term is also said to be applied to children-in-law; and to "the nephew's" parent-in-law. The latter meaning seems inconsistent with the prevailing Luiseño principles of designating kindred.

Brother-in-Law Class

Tolma, woman's brother's wife or husband's sister; that is, a self-reciprocal term between sisters-in-law. Exactly equivalent to Mohave *inya-huvi-k*. The etymology may possibly be from *to'ma*, wife.

Mes pa-na, all other brother-in-law and sister-in-law relationships; that is, woman's brother-in-law and any immediate affinity of a man in his own generation. There is no independent word *mes* in modern Luiseño. *Me* or *mai-mai*, reciprocal to *mash*, denoting a man's older brother's child, cannot be considered the source, for *me pana*, "my older brother's child's father," would only be a meaninglessly roundabout way of saying "older brother." The derivation must therefore be from *mela*,⁴ man's sister's child. *Mela pana*, man's sister's child's father, would therefore denote a man's sister's husband. Evidently the phrase was then used reciprocally for wife's brother; and finally extended to include the other relationships which it denotes.

Husband and Wife

Kung, husband.

Pewo, husband, literally, "partner" or "mate."

Shnga-ki, wife, from *shunga-l*, woman.

To'ma, wife.

Aki, co-wife. At least in address, however, "older sister" or "younger sister" is usually substituted when the personal relation is amicable.

Cousins

Parallel cousins are brothers and sisters. Whether they are older or younger depends upon the respective ages of their parents, not of themselves.

Ukshum or *yuksum*, any cross-cousin.

⁴ Perhaps the same stem *me* plus noun ending *-la*, *-l*; and *mes* for *mesh* in composition (compare *nosh* and *nos-mai*), *mesh* being *me* plus another frequent noun-ending *-sh* or *-cha*.

GENERAL FEATURES

The Luiseño system closely parallels that of the Mohave. There is the same dominant inclination toward exact reciprocity, made even more striking by a greater prevalence of verbally reciprocal terms. The tendency affects practically all the terms of the grandparent, uncle, parent-in-law, and brother-in-law classes in both languages; Mohave adds parents, and Luiseño cousins. Another fundamental common feature is the limitation of terms to designate connections by marriage. The Mohave plan is the use of a very few self-reciprocal words of narrow range plus one term that covers all other affinities. The Luiseño appear to employ no radical words at all for affinities (the special term for woman's sister-in-law is very likely a derivation from "wife"), except the somewhat generic *nahwa*, but help themselves out with circumlocutory phrases which are as purely descriptive as the corresponding English ones; or by boldly extending the meaning of terms for blood kindred. The degree to which the various factors entering into kinship are given expression by the two tribes is also very nearly the same. And, finally, there are special resemblances, as in the separation of parallel uncles and aunts into those older and younger than the parent, whereas cross-uncles and aunts are not so distinguished. The one important divergence is in the terminology for cousins, in which the two systems follow radically different methods.

Among special peculiarities of Luiseño is the employment of literally self-contradictory phrases of transparent meaning for many connections by marriage, as the obvious result of the reciprocal influence. This trait has some analogues in Northern Paiute, though there it takes the form of a wrong implication of sex and the cause appears to be mere simplifying assimilation. In both instances, however, it is purely descriptive terms that are logically misused. This point is of considerable theoretical interest. If affinity terms which on their face denote one thing, and that alone, are used in other senses from merely psychological causes, such as tendencies toward reciprocal or simplified expression, the presumption is that terms for blood kindred are also sometimes radically altered from their original meaning under the stimulus of similar causes without any accompanying change in form of marriage, kind of descent, or social institutions. The only difference is that transparent descriptive terms allow us to prove without doubt that the extension or alteration of

meaning has taken place in a particular case, whereas when we are confronted with unanalyzable stem-words the same sort of evidence can rarely be brought. But a very high probability must remain that a certain proportion of even the most elementary and important terms of relationship the world over have derived their present significance from causes not connected with form of marriage or descent.

Other unusual traits of the Luiseño system are the occurrence of terms for lineal relatives three to six generations distant; for the whole class of cross-cousins as a unit; for a child-in-law's parent; and for collateral cross-relatives of the grandparent generation. All of these evince a distinct feeling for specific relationships removed by three steps of kinship, whereas most other Indians cover such remote relationships by applications of terms for nearer kindred. Again we face a feature of kinship designation that is the reflection of an abstract idea.

In making the seniority of brother-sister cousins depend on the parents' ages the Luiseño follow a practice that is adhered to by a number of American tribes but which in the present state of knowledge is unique in California.

YOKUTS

The following system is that of the Yaudanchi tribe, belonging to the Tule-Kaweah group of the Foothill division of the Yokuts.⁵ Terms in parentheses are from the Yauelmani, who, though fairly near neighbors of the Yaudanchi and in frequent association with them, speak a dialect of the Valley division. Both tribes are from the southern range of Yokuts territory and in contact with Shoshonean tribes, such as the Tübatulabal and Kawaiisu. Yokuts systems have been collected by Mr. Gifford from the Tachi, at about the center of the area of the stock, and the Gashowu and Chukehansi in the north; but these are as yet unpublished.

Parent Class

Natet, father; vocative: *opoyo*. (Yauelmani, in reference, *nopop*.)

Nazhozh, mother; vocative: *ishaya*. (Yauelmani, in reference, *no'om*.)

The initial syllable in *n-* in these words appears to be a prefix, originally meaning "my," which has become crystallized; while the stem of *natet*, *nopop*, and *nazhozh* seems to have been reduplicated and then reduced.

Buchong, son; man's brother's son. (*Butson*.)

⁵ Present series, II, 240, 1907.

Ahid, daughter; but also child. A man's brother's daughter, and a woman's sister's child of either sex, are called *ahi*, which is of course from the same stem. That there is no confusion in my notes appears from the objective cases of the two words: *ahda* and *ahia*.

Brother Class

Nibech, older brother. (*Nibech*.)

Ne'esh, younger brother.

Na'at, older sister. (*Na'at*.)

No'ot, younger sister. (*No'ot*.)

An old possessive prefix appears to have become incorporated in these words also.

Hukozh, brother or sister of opposite sex from speaker, irrespective of age. Self-reciprocal.

Grandfather Class

Enash, any grandfather; any grandchild of a man. (*Enes*.)

T'uta, mother's mother; woman's daughter's child. (*Kamits*, mother's mother; *ts'utsa*, woman's daughter's child.)

Bap', possibly *pap'*, father's mother; woman's son's child. (*Bapa*.)

Hitwaiu (t palatal), great-grandfather; man's great grandchild. This word also means "ghost"; but the reciprocal usage indicates that, whatever its original meaning, it is also employed as a definite term of relationship.

Mokoioi, great-grandmother; woman's great-grandchild. This term must be derived from *mokoi*, whose present meaning is mother's sister.

Uncle Class

Komoyish, father's brother. (*Komoyis*.)

Mokoi, mother's sister. (*Mokoi*.)

Agash or *akash*, mother's brother. (*Akash*.)

Guiha, father's sister. (*Nusus*.)

Chayah, man's sister's child: reciprocal of *agash*. (*Tsayah*.)

Napash, woman's brother's child; reciprocal of *guiha*. (*Napas*.)

Ahi, woman's sister's child: reciprocal of *mokoi*; also, a man's brother's daughter. Except that a man calls his brother's son *buchong*, that is, son, *ahi* therefore denotes all parallel nephews and nieces, and is reciprocal in meaning to *komoyish* and *mokoi* together. Its connection with *ahid*, daughter, has already been mentioned. (The Yauelmani equivalent is not entirely clear. It may be *butson*, son or child in general.)

Father-in-Law Class

Nahamish, father-in-law. (*Nahamis*.)

Ontip, mother-in-law. (*Ontip*.)

Napatum, son-in-law; also, sister's husband. (*Napatim*.)

Onmid, daughter-in-law. (*Onmil*.)

Makshi, parent of child-in-law. Self-reciprocal.

Brother-in-Law Class

Nip'ei, wife's brother. (*Nipi*.)

Onpoi, husband's brother, wife's sister. (*Onpoi*.)

Itwap; brother's wife; also, husband's sister. (Yauelmani, *itwap*, with the same meaning, except that a woman calls her brother's wife *kitwinits*.)

For sister's husband, see *napatum*, above.

Informants mentioned that one married an *onpoi* on the death of one's spouse. The two meanings of the term are not reciprocal, however. *Itwap* and *napatum* are both reciprocal to *onpoi*, and both denote other relationships as well.

Husband and Wife

Yiwin, wife, and *yuwenich*, husband, are both from the stem *yiw*, appearing with the formative suffix *-in* as the verb "to marry"; as, *yewin-ji*, "he married." *Yuwenich* means "the marrier." Neither term seems to be used in address. The Yauelmani are said to refer to the wife as *moki*: compare Yaudanchi *mokoi*, mother's sister.

Death of Connecting Relative

The following terms for affinities by marriage are altered upon the death of the connecting relative:

ontip becomes *unitipi*;

napatum becomes *napitimi*;

onmid becomes *onimidi*;

onpoi becomes *unipiyi*.

The alteration is by a process that has several analogues in Yokuts grammar. A suffix *-i* is added which shifts the accent a syllable farther from the head of the word and changes the vowels of all but the initial syllable. The idea of severance of relationship is expressed in several neighboring Shoshonean languages;⁶ but the means here described is peculiar to the genius of Yokuts.⁷

Reciprocity

All five terms of the grandfather class are exactly self-reciprocal. In the uncle class there is no trace of verbal reciprocity. The cross uncle and aunt terms, however, each have a conceptual reciprocal. The reciprocals for parallel uncle and aunt are the words for children, or terms derived from them. In the parent-in-law and brother-in-law classes there are no reciprocals, except for *makshi*, parent of a child-in-law. A woman calls her husband's sister *itwap* and is so called by her; but the word is also used by a man for his brother's wife. Moreover, in Yauelmani, husband's sister remains *itwap*, but the reciprocal is *kitwinits*, if the recorded data are not confused. It is therefore necessary to conclude that the Yokuts entertain little more feeling than we for reciprocity in the brother-in-law class which is so favorable for the expression of this idea.

That the word for great-grandfather means "ghost," that is, "dead person," ensures that it was first applied to the aged relative

⁶ Present series, XII, 241, 1917.

⁷ Present series, II, 178, 201, 1907.

and that its reciprocal meaning⁸ of great-grandchild is secondary. This example renders it probable that the other reciprocal terms in this class are also children's terms which their grandparents re-bestowed on the little ones. The generic southern Yokuts term for mother's mother and a woman's daughter's child is *t'uta*.⁸ In Yauelmani, however, the mother's mother is called *kamits*. But as the presumably secondary reciprocal remains *ts'utsa*, it must be concluded that the Yauelmani once used this term also with the meaning of mother's mother which it possesses among the other Yokuts, and that *kamits* was subsequently introduced. A change of social institutions cannot be invoked as explanation, because no custom of marriage, descent, or kin function can possibly be involved. Any condition of Yokuts society that permitted the Yaudanchi *t'uta-t'uta* terminology would be equally well served by the Yauelmani *kamits-ts'utsa* terminology. The situation is simply that one tribe adheres to its original usage of a single self-reciprocal word, while the other has come to employ two terms that are exactly complementary. There is nothing to prevent this process of enlargement of the series of terms, or the contrary one of reduction, from having gone on indefinitely while the accompanying society remained identical. It is entirely conceivable, for instance, that the Yauelmani might in time have come to use not only six but ten words in the grandparent class in place of the original five; or that, on the other hand, they might have added verbal to conceptual reciprocity in the words of the uncle group, and thereby diminished their number from seven to four. The final outcome of such a process would be a Yauelmani system of nomenclature thoroughly different at many points from its original form and from that of allied peoples, without any change of social system and merely through a change of psychological attitude as expressed in speech.

Much the same can be inferred from *ahid* and *ahi*, two terms scarcely differentiated in sound and the first of wavering, the second of asymmetric and therefore probably also fluctuating meaning. Either the Yaudanchi once called their parallel nieces "daughters" outright, and later began to differentiate between these two kinds of relatives by altering the term when applied to one of the two; or they once possessed a special term for parallel niece (or for a woman's parallel nephew-niece) and later replaced this by the word for daughter (or child), the old sense of distinctness of the niece from the daughter however remaining sufficiently strong to prevent a

⁸ Compare Paleuyami *djudja*, present series, II, 267, 268, 1907.

wholly unmodified employment of the word "daughter" for the relationship of niece. In the one event we are confronted by an incipient dissimilation, in the other by an incomplete assimilation of terms. If now we assume that the cause of this change was an alteration in the social organization of the Yaudanchi, such as a drift to or from the levirate, for instance, it follows either that this social alteration was also halting and incomplete, which is likely to be difficult to corroborate by independent evidence in the case of a primitive tribe, and therefore to remain a purely speculative opinion; or, if the change in social conditions was fulfilled, the change in nomenclature lagged behind and now reflects the social evolution only brokenly.

RELATIONS OF MIWOK AND YOKUTS

The Central Miwok system has been presented and analyzed in full by Mr. E. W. Gifford.⁹ Its special peculiarities appear to be three.

First, there are five terms for three-step affinities by marriage—*pinuksa*, *kumatsa*, *moe*, *haiyeme*, *maksi*—which denote such persons as the wife's mother's brother, a woman's sister's son's wife, and the husband's brother's wife. The word *maksi* has the same significance as Yokuts *makshi*, and is interesting as a case of outright transfer of a kinship term from one language to another. As it is one of a class in Miwok, but so far as known stands alone in Yokuts, the latter people are likely to have been the borrowers. It is, however, necessary to bear in consideration that in as much as I did not ordinarily attempt to secure terms of this type of rather remote and indirect relationship, there is a possibility that they may actually occur in several of the systems here presented from which they now appear to be lacking.

Second, the grandparent class is much reduced in Miwok. There are only the three terms: grandfather, grandmother, grandchild. The grandmother's brother is a grandfather, and so on.

Third, the system is rather asymmetrical. The father's brother is a father, but there are two terms for the mother's sisters. There is one reciprocal to father's sister, two to mother's brother. There is one word denoting parents-in-law, two for children-in-law. *Olo* is the brother's wife, irrespective of sex, but there are two reciprocals for husband's brother and husband's sister.

⁹ "Miwok Moieties," present series, XII, 139-194, 1916.

The differences from Yokuts are not serious. The Yokuts self-reciprocal word for brother-sister of opposite sex is lacking. The terms of the grandparent class differ in not being reciprocal at all in Miwok, whereas in Yokuts they are self-reciprocal. The Yokuts great-grandparent terms are not represented. Yokuts generally has conceptually reciprocal terms for parallel as well as for cross relatives of the uncle class; Miwok merges these parallel relatives in the parent class, except for the mother's sisters. Yokuts distinguishes and Miwok combines the father-in-law and mother-in-law. Yokuts possesses four terms and Miwok five in the brother-in-law class, and the allotment to these of the eight logically possible relationships is mostly different, Miwok proceeding on the principle that such terms are conceptually reciprocal without being self-reciprocal, and that the sex of the spouse is always denoted while that of the brother-sister is left indeterminate, whereas the Yokuts classification is more random. The cousin terminology, on which Mr. Gifford has full and interesting data, can unfortunately not be compared on account of lack of Yokuts data.

Reciprocity is nearly equally developed in the two systems, the Yokuts, however, favoring it rather for blood kin and the Miwok for the less numerous connections by marriage. Both systems evince much less reciprocity than either Luiseño or Mohave.

The Miwok men marry their mother's brother's daughters, but Mr. Gifford concludes very convincingly that the original form of marriage is that of a man to his wife's brother's daughter, because twelve Miwok kinship terms are in accord with this type of marriage and none with cross-cousin marriage. Unfortunately it is not known whether the southern Yokuts marry either of these relatives; nor can anything be predicted in the matter because the full significations for most of the Yokuts terms corresponding to the twelve in question have not been obtained.

Another matter that is of logical bearing on the Miwok and Yokuts systems is an exogamic, patrilinear moiety organization. The northern and central Yokuts possess this organization in a form much like that of the Central Miwok. For the southern Yokuts, from whom the kinship terms here presented were collected, its existence seems improbable. It is very doubtful, however, whether this organization has seriously influenced kinship terminology. Of twenty-nine Miwok terms used by a man, twelve refer to his own moiety, nine to the opposite, and eight do not indicate moiety; for a woman, the corresponding figures are fourteen, seven, and nine.

For the sake of comparison, I abstract from Mr. Gifford's paper the full set of designations for first cousins, arranged in the same order as in my list for the Mohave, who are the only tribe here dealt with for whom the corresponding data are available.¹⁰ It will be seen that the two classifications are as unlike as they well could be, and are clearly determined by very different principles.

Children of Brothers

Male calls { male, *tachi*, *chale*, older and younger brother;
 { female, *tete*, *kole*, older and younger sister.
 Female calls { male, *tachi*, *chale*;
 { female, *tete*, *kole*.

Children of Sisters

Male calls { male, *tachi*, *chale*;
 { female, *tete*, *kole*.
 Female calls { male, *tachi*, *chale*;
 { female, *tete*, *kole*.

Children of Brother Call Children of Sister

Male calls { male, *üpsa*, man's sister's son;
 { female, *lupuba*, man's sister's daughter.
 Female calls { male, *angsi*, son;
 { female, *tune*, daughter.

Children of Sister Call Children of Brother

Male calls { male, *kaka*, mother's brother;
 { female, *anisü*, mother's younger sister, stepmother.
 Female calls { male, *kaka*.
 { female, *anisü*

NORTHERN PAIUTE

This system was secured from Gilbert Natches, a Northern Paiute, or, by Shoshone designation, Paviotso, of Pyramid Lake Reservation, Nevada. The terms are presented in their stem forms, although they are rarely if ever used without a possessive prefix or in composition. After certain of these elements, such as *i*-, "my," initial *k*, *t*, *p*, change to almost fricative *g*, *d*, *b*. The accent is invariably on the second syllable; except in *kai'i*, where it is borne by the diphthong, and in *ātsi*. The vowels of syllables following the accent are unvoiced or whispered. The character *e* does not carry the usual value of this

¹⁰ Except the Luiseno, whose terminology is according to a thoroughly dissimilar but very simple principle, and the Northern Paiute, who use only brother-sister terms.

letter, but represents a mixed vowel occurring in all Shoshonean languages and often written ü.

Parent Class

Na, father.
Pia, mother.
Tua, son.
Pade, daughter.

Brother Class

Pabi'i, older brother.
Wanga'a, younger brother.
Hama'a, older sister.
Peni'i, younger sister.

All first cousins are called brothers and sisters, whether cross or parallel. Whether they are called older or younger depends on their actual age, not on the ages of the respective parents.

Grandparent Class

Kenu'u, father's father; and, reciprocally, a man's son's child.
Togo'o, mother's father; and, reciprocally, a man's daughter's child.
Mu'a, mother's mother; and, reciprocally, a woman's daughter's child.
Hutsi'i, father's mother; and, reciprocally, a woman's son's child.
Hebi'i was given as father's father's mother, and reciprocally as a woman's son's son's child. It probably has a wider meaning. It enters into composition with other terms to denote certain connections by marriage. In these compounds it appears to designate relationship less than three generations remote.

Uncle Class

Hai'i, father's brother.
Pidu'u, mother's sister; also mother's co-wife, even if not related in blood.
Atsi, mother's brother.
Pahwa, father's sister.

All these are used alike for the older and the younger brother or sister of the parent. Each has an exact reciprocal, which is, however, entirely different in sound.

Huza, man's brother's child, reciprocal of *hai'i*.

Mido'o, woman's sister's child, reciprocal of *pidu'u*; also, child of a co-wife, even if unrelated in blood.

Nanakwe, man's sister's child, reciprocal of *atsi*.

Mido'o, woman's brother's child, reciprocal of *pahwa*.

I suspect that *mido'o*, woman's sister's child, and *mido'o*, woman's brother's child, are the same, especially since I recorded both as accented on the second syllable, which is according to rule if the first vowel is short, whereas a long initial syllable carries the accent. It is not unlikely that *mido'o* has been extended from woman's sister's child to denote also her brother's child, replacing a former *adatsi*, which survives in composition in the name which a woman applies to her brother's wife.

Parent-in-Law Class

Yahi, father-in-law; mother-in-law.

Togo-nna, son-in-law. This word means literally "father of the child of the daughter of a man," and logically is therefore usable only by males; but it is employed by women also, who have no other designation for a son-in-law.

Kenu-pia, daughter-in-law. Again a man's term used by women also: "mother of the child of the son of a man." The word is a true compound, *kenu'-pia*, not *kenu'u pia*.

Hebi-yahi, literally "woman's son's son's child's father-in-law," or "father's father's mother's father-in-law," was recorded with the meanings of father-in-law's father, father-in-law's mother, and father-in-law's paternal grandmother. In the last instance the compound denotes one's wife's great-grandmother, whereas *hebi* itself denotes one's own great-grandmother. I infer that *hebi-yahi* is applicable to a considerable range of affinities by marriage, its first element denoting that the person denoted is two or three generations older, and the second element having about the force of our "in-law"; much as we might describe an old lady as our "great-grandmother-in-law."

Hebi'i togo-nna—an epithet of two words, not a compound—was given as the reciprocal of *hebi-yahi*, specifically used by a woman for her son's son's son-in-law—her great-grandson-in-law.

Brother-in-Law Class

Adatoi, wife's brother; man's sister's husband. Self-reciprocal. Also used between men as a friendly term of address when no relationship exists.

Adatsi-pia, husband's sister; woman's brother's wife. Self-reciprocal. The word means "mother of the *adatsi*." If the term was first used for the brother's wife, *adatsi* must be an old name for a woman's brother's child. This interpretation is supported by the fact that the actually employed designation for a woman's brother's child is probably the same, and certainly nearly the same, as for a woman's sister's child—a uniting of relationships not in accord with the plan of the remainder of the Northern Paiute system. If, however, *adatsi-pia* was first used for the husband's sister, then *adatsi* must have meant husband's sister's child. In support of this interpretation is the similarity of *adatsi*—probably composed of a stem *ada* and the diminutive suffix *-tsi*—to *adatoi*. This word *adatoi* denotes a man's brother-in-law; but its former meaning may have been wider; since my informant stated that sisters-in-law sometimes called each other *adatoi*, jokingly he thought. If *adatoi* ever meant brother-in-law or sister-in-law in general, its connection with *adatsi* could hardly be doubted: *adatoi* being the brother-in-law, *adatsi* would be the "little brother-in-law," that is, the brother-in-law's son, or a junior relative of the husband, such as his sister's son; and the *adatsi-pia*, his mother, would in the latter case be the husband's sister.

It is difficult to decide between these two explanations. Yet, whichever is right, or if it be a third, the term *adatsi-pia* is descriptive and could originally not have applied to both the persons to whom it is now applied; for there is no group of relatives to whom two sisters-in-law can both be mothers. The term therefore once belonged to one of these relationships and has been extended to include the other, as it is now self-reciprocal, presumably through the operation of the inclination toward reciprocity. If this tendency is strong enough to cause a change of meaning of exactly descriptive terms until they become self-contradictory, its potential influence must be great, and should suffice to bring about even more considerable alterations of ordinary non-descriptive terms,

whose scope is readily extensible by analogy or metaphor without the production of a transparent logical clash.

Nenai'i, husband's brother; woman's sister's husband.

Huza-na-pia, wife's sister; man's brother's wife. The latter must be the original meaning, the former its extension—again etymologically inexact, unless double marriage of brother and sister to sister and brother had been the rule. *Huza* denoting a man's brother's child, the *huza-na-pia* is of course his brother's wife.

Nenai'i and *huza-na-pia* are mutually reciprocal, while the two other terms of this class, *adatoi* and *adatsi-pia*, are each self-reciprocal. A different grouping of the four meanings expressed by *nenai'i* and *huza-na-pia* would have made these also self-reciprocal. As it is undeniable that extensions or alterations of meaning have taken place in this class of terms, it is reasonable to consider why these changes did not operate in the direction of consistency, that is, of uniform self-reciprocity. The reason seems to be that in such case *nenai'i* and *huza-na-pia* would each have denoted both males and females. Under the existing system of Northern Paiute, however, each of its four terms of this class refers only to men or only to women, to wit; man's brother-in-law, woman's sister-in-law, woman's brother-in-law, man's sister-in-law. Reciprocity must from its very nature interfere with the consistency with which certain conceptual factors entering into relationship (such as generation, sex of the speaker, and sex of the relative) are expressed; and the reverse is equally true. In the uncle and grandparent classes of Northern Paiute terms, where the reciprocity is complete—although only logical in one case and verbal as well in the other—the consistency of employment of the three conceptual factors or categories is thoroughly violated. In the brother-in-law class, on the other hand, complete uniformity of reciprocal expression is not attained, but every term is exact in its denotation of sex of the person referred to as well as the sex of the speaker.

Husband and Wife

Kuma, husband.

Nodekwa, wife.

The terms of address were not recorded.

Woho, co-wife. A woman says *i-woho'*, "my co-wife," in reference, but addresses her as *i-bea'a*, "my friend," if they are not sisters. As an address, *i-woho* is an insult. *Na-wo'ho* is used when a man's two wives are meant: *na* is a reciprocal prefix.

MARRIAGE

The Northern Paiute deny cross-cousin marriage, though my informant attributed it to the Shoshone on their east, who, he said, will marry their *pahwa's* daughter. This may, however, be only the expression of an opinion of the loose morality of the latter people, since Gilbert also mentioned that the Shoshone married their parallel cousins, which is scarcely possible. The brother-sister terminology for cross-cousins among the Paiute confirms their denial of the practice by themselves.

Even first cousins once removed and second cousins cannot marry among Gilbert's people. This is certain for parallel cousins; but

unfortunately my records do not allow me to assert the same rule positively for second cross-cousins, although I believe it applies.

First half cousins, on the other hand, can and do marry. I secured an instance of the children of two half brothers marrying. Such half cousins were common among the Northern Paiute as the result of polygamous marriages by men. There seems to have been even some encouragement of half cousin marriage, as favoring a peaceable and permanent union; although if, as often happened, the half brothers lived in remote localities, a marriage of their children was likely to be terminated by the return of one of them to the old home when ties of blood and association called.

Geography was otherwise a factor of importance in these matters, on account of the varying degree of acquaintance which it imposed. My informant's father and the latter's half brother, who lived apart, arranged a marriage between a son of the former and the daughter of the latter. The girl was willing, but the young man, having previously visited at her home, had got to calling her "sister," and refused to marry her on that ground. He had known her too long, he said.

A man might marry a woman and her daughter—his stepdaughter, of course. This is a common practice of most of the California Indians.

WASHO¹¹

The stems of the Washo terms of relationship are used with possessive prefixes, such as *di-*, *my*, *um-*, *your*, *da-*, *his*. A few words replace *di-* by *di-m-*, *la-*, or *l-*, *um-* by *mi-m-* or *m-*.

Parent Class

Koi, father.
La, mother.
Malolo, parents.
Ngam, son.
Ngamu, daughter.
Ngaming, child.

Brother Class

At'u, older brother.
Isa, older sister.
Beyu, younger brother.
Wits'uk, younger sister.

Cousins are older or younger brothers and sisters according to their own ages, not those of their parents.

¹¹ Present series, iv, 309, 1907.

Grandparent Class

Baba, father's father, man's son's child.

El-el, mother's father.

El-el-i, man's daughter's child.

Ama, father's mother, woman's son's child.

Gu, mother's mother.

Guy-i, woman's daughter's child.

Uncle Class

Eushi, father's brother; reciprocal, *masha*.

Da, mother's brother; reciprocal, *magu*.

Ya, father's sister; reciprocal, *shemuk*.

Sha'sha, mother's sister.

Masha, man's brother's child; reciprocal, *eushi*.

Magu, man's sister's child; reciprocal, *da*.

Shemuk, woman's brother's child; reciprocal, *ya*.

The term for woman's sister's child was not obtained with certainty. It may be *shemuk*. See below.

Parent-in-Law Class

Ayuk, parent-in-law.

Bu-angali ('lives with'), son-in-law.

Eyesh, daughter-in-law.

Brother-in-Law Class

Uladut, man's sister's husband, wife's brother. Self-reciprocal.

Di-ngaming de'-eushi ('my child's father's brother'), husband's brother.

Di-magu da-koi ('my sister's child's father'), woman's sister's husband.

This phrase does not necessarily prove that *magu* is the term which a woman applies to her sister's child: in Northern Paiute there are analogous cases of a woman using a man's term in descriptive phrases of this type.

Di-mash da-la ('my brother's child's mother'), man's brother's wife. This phrase was also obtained for wife's sister, but the latter meaning is in need of corroboration.

Yangil, woman's brother's wife, husband's sister. Self-reciprocal.

Husband and Wife

Bu-meli, husband (*meli*, 'to make a fire').

(*M*)*laya*, wife.

The vocative terms are not known.

Reciprocity

Reciprocity is consistently verbal and conceptual in the grandfather class, and conceptual only in the uncle class; it is not expressed in terms for relatives by marriage except in one brother-in-law and one sister-in-law term.

RELATIONS TO NORTHERN PAIUTE

The Washo and the Northern Paiute are the only tribes of those here considered who live east of the Sierra Nevada. Both extend

from Nevada into eastern California. Their customs are little known, but appear to be similar, though the languages are utterly distinct. Their kinship systems are practically identical.

Parent class: father, mother, son, daughter. Washo adds a derivative for child and a term for parents.

Brother class: older and younger brother and sister.

Grandparent class: paternal and maternal grandfather and grandmother, each used reciprocally in the same form, except that two Washo grandchild terms add a suffix. Paiute has also a term for great-grandmother.

Uncle class: four terms for parallel and cross uncle and aunt, and four exact conceptual reciprocals, which, however, bear no likeness in sound. In both languages there is some doubt whether there is a distinct term for woman's sister's child.

Cousins: all are denominated brothers or sisters, seniority depending on their actual age.

Parent-in-law class: parent-in-law, son-in-law (a descriptive term), daughter-in-law (descriptive in Paiute only).

Brother-in-law class: man's brother-in-law, self-reciprocal; woman's sister-in-law, self-reciprocal (descriptive in Paiute only); man's brother's wife or wife's sister (descriptive); husband's brother or woman's sister's husband, denoted by a single non-descriptive word in Paiute and by two separate descriptive terms in Washo.

The two systems could not well be more similar. Two alternative interpretations are open. Either we must assume that Washo and Northern Paiute institutions are identical and that institutions are perfectly reflected in kinship terminology; or we must admit that these two systems have attained their practical identity under the partial or dominating influence of similar ways of thinking, that is, that mental or linguistic causes have been operative.

RELATIONS TO OTHER SYSTEMS

The Washo are in contact with the Miwok; and the Washo-Paiute system is not very different from the Miwok-Yokuts one—certainly much more similar to it than to either the Wintun or the Mohave-Luiseño type of terminology. The greatest difference is in the cousin nomenclature, which could not well be more diverse. The Miwok terms of the grandparent class are also dissimilar: non-reciprocal grandfather, grandmother, and grandchild versus a scheme of four self-reciprocal terms each expressing the sex of the intermediate relative.¹² Miwok, however, seems exceptional in this point. The southern

¹² It is a striking circumstance that the Miwok disregard this consideration, although its observance would bring their nomenclature into closer consonance with their social scheme of descent, whereas the Washo and Northern Paiute, who are not known to possess moieties, discriminate according to the factor. If terminology mirrors sociology, the Miwok should distinguish paternal grandparent and maternal grandparent instead of grandfather and grandmother.

Yokuts, although geographically more distant than the Miwok, use terms of the exact Washo-Paiute type.¹³ The Miwok must therefore be regarded as occupying a distinctly anomalous position in their grandparent-grandchild terminology. This is borne out by the fact that the Wintun, Pomo, and Yuki, who tend to merge grandchildren in children or nephew-nieces, and therefore, like the Miwok, express no reciprocity in this class, nevertheless generally distinguish paternal from maternal grandparents. To the south, the Mohave and Luiseño express both lineage and at least conceptual reciprocity; and the same seems to have been the practice of the Salinans and Chumash, so far as the fragmentary evidence allows judgment. The divergence of the Miwok system from that of the Washo and Northern Paiute at this point is therefore not characteristic of type, but due to a Miwok peculiarity.

At most other points Washo and Miwok correspond fairly, or about as well as Miwok and southern Yokuts. The parent and brother classes are substantially identical. The uncle class differs in that the Miwok merge parallel relatives in parents, except for the mother's sisters, among whom they distinguish seniority. This seems another Miwok specialization, since Yokuts is more similar to Washo. The parent-in-law class is similar in that the father-in-law and mother-in-law class are merged and that there is no reciprocity. The brother-in-law relatives are differently classified; but the force of this divergence is weakened by the marked difference of Yokuts from both. The Miwok terms for three-step connections by marriage, finally, are unrepresented in both Washo and Northern Paiute; but this class seems again to present a Miwok individuality, being lacking, or practically so, in all other Californian systems, as far as we know. Just so, the descriptive terms of Washo and Northern Paiute are an evident peculiarity, since they are found only among the Luiseño and not among any nearer tribes in California.

On the whole, therefore, while Washo and Northern Paiute form an exceedingly intimate group, they also have tolerable affiliations to south central California. They are certainly at least as near and probably nearer to Miwok-Yokuts than these are to Luiseño-Mohave. On the other hand, Miwok evinces a number of specializations from which southern Yokuts is free; the latter on the whole is therefore more similar than Miwok to the Nevadan systems.

¹³ Except that there is only term for grandfather, though this remains self-reciprocal.

TUBATULABAL AND KAWAIISU

Mr. Gifford has described¹⁴ the systems of these two Shoshonean tribes of the southern Sierra Nevada, neighbors of the southern Yokuts. They are similar to each other and in general type very close to Northern Paiute. The chief differences from the latter are the following:

Kawaiisu has terms for great-grandfather, son, mother, and daughter—diminutives from the stems for older and younger brother and sister. Tübatulabal has a word for great-grandparent apparently borrowed from the Kawaiisu one for great-grandfather, and employs a diminutive thereof as a reciprocal.

Kawaiisu applies its terms for cross uncle and aunt only to the younger brother or sister of the parent. The father's older brother is classed with the father, the mother's older sister with the mother. The Tübatulabal scheme is like the Northern Paiute one.

Both languages, like adjacent Yokuts, alter the terms for connections by marriage after the death of the intermediate relative. The means employed are suffixes. In addition, Tübatulabal possesses a special term *hoki*, used between grandparents and grandchildren after the death of the father or mother.

Both languages possess special terms applied only to the blood father and the blood mother before the loss of any child.

Tübatulabal expresses "son" and "daughter" by a single word and "younger brother" and "younger sister" by one.

The Kawaiisu terms of the brother-in-law class tally exactly with those of Northern Paiute. The Tübatulabal ones are doubtful. No one of Mr. Gifford's half dozen informants yielded them alike. Not one of the lists reduces to the Kawaiisu scheme even when the number of terms is reduced from five to four by counting two as a single one. Mr. Gifford suggests Yokuts influence on the Tübatulabal system on this point, and I have no doubt he is right. But I have been equally unable to make the arrangement of any of his informants fit the Yaudanchi or Yauelmani plan. There are only two conclusions that suggest themselves. Either the Tübatulabal system has broken down at this point in the last sixty years under American and Mexican contact, or original Shoshonean and subsequent Yokuts influences have mingled and reduced the Tübatulabal scheme to a transitional and inconsistent stage. Possibly the latter condition existed first and caused an unusual lack of resistance under the effect of our civilization.

SHOSHONEAN SYSTEMS

These systems collected by Mr. Gifford, with two others recorded by Dr. Sapir and included in full in the same study, and Luiseño and Northern Paiute, make six that are available from the Shoshonean family and allow a broader comparison than has been possible here—

¹⁴ Present series, XII, 219-248, 1917.

tofore. I give first the words used to express several of the more elementary relationships.

SHOSHONEAN STEMS OF SIMILAR MEANING

	Northern Paiute	Kawaiisu	Uintah Ute	Kaibab Paiute	Tübatulabal	Lui-seño
Father	na	kugu, muwu ¹	moa	moa	kumu, ana ¹	na'
Mother	pia	mawü, piyu ¹	pie	piya	ümü, abu ¹	yo
Older sister	hama'a	pachi	paichi	patsi-	kuchi	kes
Father's father	kenu'u	kuno	könu		aka	ka' ⁴
Mother's mother	mu'a	kagu	kagu	kahu	utsu	tu'
Mother's father	togo'o	togo	togu	toho ²	agi-st	kwa
Mother's brother	a-tsi	shinu	shina-nchi ³		kali	tash
Father's sister	pahwa	paha	pä	paa	pauwa	pa-mai
Parent-in-law	yahi	yehe	yai-chi	ʔ	wasu-mbis	(descriptive) ⁵
Son-in-law	(descriptive)	mono	muna-chi	mona-tsi	wüni	(descriptive)

¹ Blood parent before loss of any child.

² Younger brother of the mother.

³ Any grandfather.

⁴ Fathers' parent.

⁵ A woman says *ka'*, father's parent.

It is clear that the stems that are used to denote the same relationship are very variable. The Kawaiisu, Uintah Ute, and Kaibab Paiute idioms are all of the Ute-Chemehuevi division and very close to one another. They may be said to differ only dialectically. Northern Paiute belongs to the same Plateau branch of the family, but deserves to be reckoned as a distinct language. Nearly half of its stems for kindred are different. Tübatulabal and Lui-seño are linguistically somewhat remote from the others, but certainly no more than Greek is from Latin or German from Slavic; yet the majority of their stems are new.

Analogous results appear when the procedure is reversed and the meanings of identical stems are compared.

Tua, tuwu, towa, tuwa means son in all four of the Plateau dialects; *tumu* is son or daughter in Tübatulabal.

Nama'i, nami is younger sister in Kawaiisu, Ute, and Kaibab Paiute; *nalawi* is younger brother or sister in Tübatulabal.

Shinu is mother's brother in Kawaiisu, *shina-nchi* mother's younger brother in Ute, *shina-* male cousin in Kaibab.

Mawu is mother's older sister in Ute, *mawü* mother's older sister or mother who has not lost a child in Kawaiisu, *mangwu'i-* female cousin in Kaibab.

Piyu in Kawaiisu denotes only the mother who has not lost a child; in the other three Plateau dialects the term *pia, pie, piya* means mother, without being so limited.

Lui-seño *tu'*, mother's mother, appears to correspond to Plateau *togo'o, togo, togu, toho*, which always denotes the mother's father.

Luißeño *ka'*, father's father or father's mother, seems to be from the stem of Kawaiisu *kagu*, Ute *kagu*, Kaibab *kahu*, all of which denote the mother's mother; while Luißeño *kwa*, mother's father, perhaps is the etymological equivalent of Plateau *kenu'u*, *kuno*, *könu*, father's father. These correspondences are not certain, and perhaps they should be interchanged; but if they hold either way, there has been a specific alteration of meaning.

These two comparisons in conjunction make it clear that terms of relationship have a history quite like that of all other words. They alter in meaning, become obsolete, drop out of usage altogether, and new stems, which originally had another significance, come to take their places. If kinship terms are more conservative than most other parts of a language's vocabulary, the difference is merely one of degree. Whether they are more conservative is a subject neither for reasoning nor for assumption, but a problem of fact to be established by purely philological comparison. In short, kinship terms are an integral part of the tongues in which they occur and are therefore subject to linguistic influences like all other words. This being so, they cannot be a perfect nor even a reliable mirror of institutions.

WINTUN

I secured an outline of the Southeastern Wintun system as used in the vicinity of Colusa. It is so extraordinary that I include it for comparative purposes, although Mr. Gifford subsequently obtained fuller and better verified lists from several parts of the Southeastern and Southwestern Wintun territory. It appears that I have missed one or two terms; but the skeleton of the system as here presented is substantially correct.

Wintun terms are used with possessive affixes, but differ so much for the first and second persons that it is desirable to give both forms. In general, "my" is *-chu*, and "your" is *mat-*.

Parent Class

tan-chu, *ma-tan*, father, father's brother.

na-ku, *ma-nin*, mother, mother's sister.

te-chu, *mat-mutle*, son, daughter, man's brother's child, woman's sister's child.

Brother Class

laba-chu, *mat-laben*, older brother.

otun-chu, *mat-usun*, older sister.

tlän-chu, *ma-tlan*, younger brother or sister.

The method of application of brother-sister terms to cousins was not learned.

Grandparent and Uncle Class

apa-chu, mat-apan, mother's brother, mother's father, father's father, great-grandfather.

ama-ku, mat-aman, father's sister,¹⁵ mother's mother; presumably also great-grandmother.

sakan-chu, mat-sakan, father's mother.¹⁶

tai-chu, ma-tai, woman's brother's child¹⁵ or man's sister's child, that is, any cross nephew or niece; also, any grandchild; presumably also any great-grandchild.

Father-in-Law Class

tes-ba or *tes-win, ma-tes*, parent-in-law or child-in-law. *Tes-win*, which seems to contain the stem for "person" (cf. *Wintun, Patwin*), is used only for the son-in-law; *tes-ba* denotes the daughter-in-law and either parent-in-law. In the second person the suffixes disappear and the terms are identical.

Brother-in-Law Class

tiran-chu, ma-tiran, sister's husband.

boksen-chu, mat-boksen, brother's wife.

nai-tlen, ma-tlen, spouse's brother or sister.

GENERAL FEATURES

The extreme condensation of this remarkable system would tend to prevent any considerable reciprocity. In fact, there is none discernible, unless the two forms from the stem *tes* be looked upon as a single self-reciprocating term.

The uncle class has been totally merged in the parent and grandparent classes. This may be a carrying further of the Miwok principle by which the parallel uncle is called father. However, Miwok does not merge cross-uncles with grandparents, nor cross-nephews with grandchildren, whereas there is some inclination toward the classing together of nephews and grandchildren among the Pomo and Yuki who are near neighbors of the Wintun. The latter people seem therefore to have used the simplifying tactics peculiar to the systems on both sides of themselves.

The Wintun also agree with the Miwok in naming only one grandfather, but with the Pomo and Yuki in distinguishing the paternal from the maternal grandmother, if there is no error about *sakan-chu*.

The Wintun brother-in-law terms correspond with the Miwok ones, except that there is only a single equivalent to three of the latter:

¹⁵ Mr. Gifford's informants gave the term for older sister as denoting the father's sister, and for younger sister as denoting a woman's brother's child.

¹⁶ This term was not obtained by Mr. Gifford, whose informants included the father's with the mother's mother under *ama-ku*. *Sakan-chu* must therefore be considered doubtful.

wokli, *kolina*, and *apasti*. Pomo, however, is still more similar to Miwok, the terms having the same signification throughout except that there is a single term instead of *kolina* and *apasti*.

It therefore seems that there are certain tendencies of terminological classification more or less common to the Miwok, Wintun, and Pomo, and several in which they differ; and that Wintun utilizes any of these methods that aid reduction of nomenclature. The result is a system even more compact than the English one, and as free from reciprocity, but constructed on utterly different principles.

POMO¹⁷

Parent Class

E, father; *harik*, my father; address: *harika*.

Te, mother; *nik*, my mother; address: *nika*.

Ghawe-l-ip, son; any grandson; and nephew except a man's sister's son. This term seems connected with *hawi*, boy, and *mi-p*, he. Address: *harika*, as for father.

Ghawe-l-et, daughter; any granddaughter; any niece except a man's sister's daughter. Evidently connected with *hawi*, boy, and *mi-t*, she. Address: *nika*, as for mother.

Esh, son or daughter, presumably also grandchild, nephew, or niece. A term of endearment or ceremonial usage. In address: *esha*.

Brother Class

Meh, older brother; address: *meha*.

Deh, older sister; address: *deha*.

Duhats, younger brother or sister; address: *duhatsa*.

Grandfather Class

Madili, father's father; address, the same. This word denotes also the father's father's father. Among the Eastern Pomo south of Clear Lake, it includes the father's older brother; but this is not so among the people on the north side of the lake.

Mats, father's mother; address: *matsa*.

Gach, mother's father; also his brother and his father. This inclusion of the great-uncle (or aunt) and great-grandparent seems to apply to all Pomo grandparent terms. In address, *gacha*.

Ghats, mother's mother; address: *ghatsa*.

There are no terms for grandchildren. The words chiefly employed are the "boy" or "child" derivatives used for son and daughter, it is said; but a reciprocation by the grandparents to the grandchildren is not unknown. In this case the reciprocity seems to be exact, i.e., *madili* denotes a man's son's son or daughter, and so on.

¹⁷ Eastern dialect, of Clear Lake. See present series, XI, 320-346, 1911.

Uncle Class

Keh, father's brother, also stepfather; in address, *keha*. On the death of a married man his brother generally married the widow. His step-children, however, continued to call him *keh*, not *harik*, father. See *madili*, above.

Weh, father's sister; address: *weha*.

Tsets, mother's brother; address: *tsetsa*. The reciprocal is *dah*.

Tuts, mother's older sister; address: *tutsa*.

Sheh, mother's younger sister, stepmother; address: *sheha*.

Dah, man's sister's child, boy or girl; in address, *daha*. This is the reciprocal of *tsets*. It is said to be the only term of nephew-niece type in Pomo, son or daughter being used in all other cases.

Father-in-Law Class

Sha, father-in-law, mother-in-law.

Dimot, son-in-law. This word is said to denote one who supplies or gives in return for favors, and can be used of a woman who visits her lover more or less regularly.

Shomits, daughter-in-law.

On account of a species of the parent-in-law taboo, these three terms are not used in address, but the plural demonstrative pronoun, *hibek*, "those" or "they," is substituted. Or, at greater length, a father-in-law may be addressed as *butsigi hibek*, "old man those"; a mother-in-law as *daghara hibek*, "old woman those": a child-in-law as *esh-bek*, "child those." Even in reference to the relatives in question the plural *hibek* can be added. The brothers, fathers, uncles, etc., of the parents-in-law are also addressed in this polite way; and presumably the old people apply the form of deference to their children-in-law's brothers and sisters. If the spouse dies, the former parents and children-in-law continue to address one another as if he or she were still living. If the marriage is broken off, they revert to normal singular forms.

Brother-in-Law Class

God, sister's husband; also his brother, and, it seems, his sister. In address, *goda*.

Mi, brother's wife; also her sister, and, it seems, her brother.

Ha, wife's brother or sister. Reciprocal to *god*.

Ghar, husband's brother or sister. Reciprocal to *mi*.

Brothers-in-law and sisters-in-law are addressed directly, without pluralizing circumlocution.

Husband and Wife

Baili, husband; also *kak*, "man"; in address, *butsigi*, "old man."

Dat, wife; also *da*, "woman"; in address, *daghara*, "old woman."

Giashi is a vocative term of endearment used reciprocally by husband and wife.

GENERAL FEATURES AND RELATIONS

With the Pomo we encounter a reversion from the extreme reduction of the Wintun system. There is a marked tendency to class juniors under as few designations as possible; and this suffices to prevent any great development of reciprocity. Four terms, however,

reappear for grandparents, and there are specific uncle-aunt designations; so that in this point we are back at the general Californian practice common to Washo, Northern Paiute, Yokuts, and Tübatulabal. The distinction of the mother's sisters according to age is too widespread in the region to be regardable as a specific Miwok resemblance. The brother-in-law terms equal the Miwok ones, at least in involved plan, and express conceptual reciprocity. The special three-step terms of the Miwok are unrepresented, terms of two-step relationship being extended to cover them, as apparently by most the tribes of California. Conceptual reciprocity is found in the one word of the nephew class; and there is an incipient or obsolescent tendency toward self-reciprocity in the grandparent group. In short, the Pomo system shares some of the individualized traits of the Wintun and Miwok plans, but in other respects is on a generic Californian basis.

YUKI

I failed to secure either a complete or a wholly consistent Yuki system. Dr. S. A. Barrett, while on a visit to Round Valley Reservation, undertook to supply the deficiencies; but his material proved insufficient for entire clearness, and showed apparent contradictions in the terms for the same classes of kindred in which I had encountered difficulties, namely, uncles, aunts, nephews, nieces, and grandchildren. I suspect a factor of classification to be involved here which both our inquiries failed to reach. The data on these groups of relatives must therefore be used with reserve.

Parent Class

K'un, father.
K'an, mother.
K'il-(i), son, daughter.

Brother Class

K'ich, older brother, older sister.
La'n, younger brother.
Mu'n, younger sister.

Uncle Class

Kaint, father's brother, stepfather.
Kikan, mother's older brother.
Aint, mother's younger brother.
Panchet and *p'oyam* were both obtained for father's sister
Naint, mother's sister, probably older.

Kaⁿsh, mother's sister, probably younger; stepmother.

Difficulty and confusion were experienced in securing these terms from informants. The possibility must be reckoned with that some of the terms differ radically as they are used in reference or address; or that other factors are involved.

Chaⁿt-kaⁿ, man's brother's child, woman's sister's child, that is, parallel nephew or niece; or, as it might be defined, potential stepchild.

Ipima or *ipimich-kaⁿ*, man's sister's child.

Kup was obtained with the same meaning; it may be a term of address only.

Omsa-kaⁿ, woman's brother's child. Some informants add woman's sister's child, and man's sister's daughter, but this seems unlikely.

Grandparent Class

Osh, father's father.

Pit, mother's father.

Pop, father's mother.

Tit, mother's mother.

Asam-ap-kaⁿ, son's child.

Asam-chaⁿt-kaⁿ, *am-chaⁿt-kaⁿ*, daughter's child. Evidently from *chaⁿt-kaⁿ*, parallel nephew-niece.

Informants were not wholly consistent as to the meaning of the two grandchild terms.

Parent-in-Law Class

O'l-am, parent-in-law.

Wit(-i), son-in-law.

Kim(-a), daughter-in-law. *Sut-am* was obtained with the same meaning.

Brother-in-Law Class

Laⁿyaⁿ, wife's brother.

Chat, wife's sister, brother's wife.

Taⁿshit, husband's sister, husband's brother, sister's husband.

Chat and *taⁿshit* are reciprocal; that is, any woman called *chat* says *taⁿshit* to the man or woman so addressing her. The reciprocal of *laⁿyaⁿ*, however, is also *taⁿshit*.

These terms were obtained identically by Dr. Barrett and myself, and may therefore be relied upon.

GENERAL FEATURES AND RELATIONS

In spite of the imperfection of the record, it can probably be inferred that the Yuki system is once more of the generic Central Californian type. The resemblance of grandchild and nephew terms indeed is evidence of some influence of the inclinations that have shaped the Wintun system and in part that of the Pomo. But the terminology for uncles and aunts, that for grandparents, and an apparently moderate degree of conceptually reciprocal expression—self-reciprocal terms have not been found—indicate that the Yuki system is sprung from the same basis as that which has originated the systems of the Washo, Northern Paiute, and Yokuts.

YUROK

All terms were obtained with one of the suffixes *ne-* or *n-*, my, *ke-* or *k-*, your, and *we-* or *u-*, his, her. There are also suffixes, especially *-osh*, which are not part of the stem. Most of the terms are verified by information independently obtained by Dr. T. T. Waterman.

Father Class

Ne-pshets, *u-pshits*, father. The term of address is *tot*, but *we-tot-osh*, his father, was also obtained. The difference between the two stems is not clear. It is not one of sex of the speaker.

We-ts-eko or *u-kok-osh*, mother. In address: *kok*.

There are no words meaning son or daughter. *N-oukshu* is "my child," *ne-megwahshe* "my boy" or "son," *ne-weryernerksksh* "my girl" or "daughter."

Brother Class

Ne-mits-osh or *ne-mit-osh*, older brother.

Ne-pin-osh, older sister.

Kits-pe'l, older brother or sister. Probably from *pe'lin*, large.

Tseihkeni, *ne-eihk-eu*, younger brother or sister. *Tseihkeni* means "small."

Tsits or *chich*, vocative, and *ne-choch-osh*, first person, were obtained by Dr. Waterman as meaning younger brother or sister.

Ne-pa', brother, male cousin, or more distant male relative of a man.

Ne-weyits, sister, female cousin, or more distant female relative of a man.

Ne-lai, brother, male cousin, or more distant female relative of a woman. Dr. Waterman gives an apparent contraction: *let*.

The first five of these terms, which refer to age, and the last four, which express sex, overlap. The former have more or less exact equivalents in all the Californian languages. The latter are of a much rarer type, but similar terms recur among the neighboring Karok, so that a secondary development local to northwestern California may be involved.

Grandparent Class

Ne-pits-osh, grandfather, as in English, that is, both the father's father and the mother's father.

Ne-kuts-osh, grandmother.

Ne-k'ep-eu, grandchild. Also used for nephew and niece, in addition to the terms specifically denoting these relationships.

Uncle Class

Ne-ts-im-osh, father's brother; mother's brother; that is, "uncle" as in English.

Ne-tul-osh, mother's sister; father's sister; that is, "aunt" as in English.

Nc-k-tsum, brother's or sister's son, that is, "nephew" as in English.

Ner-ramets, brother's or sister's daughter, that is, "niece" as in English.

All four of these terms are also used for relatives of the cousin class, which see.

Ne-k'ep-eu, grandchild, is sometimes also employed for nephews and nieces. I base this statement on concrete cases within my experience. Conversely, I have had *ne-pits-osh*, grandfather, translated as mother's brother, and *ne-tul-osh*,

aunt, as father's mother; but I have no cases to support these definitions and they may be errors.

Cousins

First cousins can apparently be designated by the four generic brother-sister terms that lack age reference. My examples, however, yield the terms for nephew, niece, and uncle, to which, presumably, the one for aunt must be added. The principle determining which of two cousins is the "uncle" or "aunt" and which the "nephew" or "niece" is not altogether certain, but appears to be absolute age. The selection of terms is not dependent on cross or parallel cousinship.

Parent-in-Law Class

Ne-par-eu, father-in-law.

Ne-ts-iwin, mother-in-law.

Ne-ts-ne'uk-osh, son-in-law.

Ne-keptsum, daughter-in-law.

Ne-kwa, father-in-law or mother-in-law of one's son or daughter. Self-reciprocal. Dr. Waterman's informant makes this term include all connections by marriage more remote than parents, children, brothers, and sisters-in-law.

Ne-ts-ker, any relative by marriage after death of the connecting member.

Brother-in-law Class

Ne-tei, wife's brother; man's sister's husband. Self-reciprocal: man's brother-in-law.

Ni-ts-nin, husband's sister; woman's brother's wife; man's brother's wife; wife's sister; in short, any sister-in-law.

Ni-ts-no'o, husband's brother; woman's sister's husband; that is, woman's brother-in-law.

Changes for Death

Dr. Waterman reports the following terms for deceased relatives:

Ne-me-ni'iyun, "my dead grew-up-together," deceased brother or sister.

Ne-me-tsameyotl, dead uncle.

Ne-me-k-tsum, or *kotl n-oukshu*, "dead my-child," deceased nephew.

Ne-me-pets-eu, dead grandfather.

Ne-me-ke-kts-eu, dead grandmother.

GENERAL FEATURES

The Yurok system stands quite apart from any other yet recorded in California. The failure to distinguish between grandparents, grandchildren, uncles, aunts, nephews, and nieces according to their male or female lineage seems extraordinary after acquaintance with the kinship reckonings of the other Californians. Civilized influences can not be thought of in this connection, for if there is any tribe in the state that preserved the substance of its old life intact until recently it is the remote Yurok.

Separation of relatives in the male and female line is so frequently accompanied by a development of true reciprocal expression in California, in the Great Basin region, and in the Southwest that the two phenomena must be taken in connection. As might be anticipated, the Yurok evince little feeling for reciprocity, not only in the kinship classes just mentioned but in the other group which lends itself readily to reciprocal formulation, the relatives by marriage. This is the more remarkable because in the Oregon region, as instanced by the Takelma and the Chinook, systems of California-Plateau-Southwestern type seem again to prevail. It is necessary to look as far as the Coast Salish, or the tribes of the eastern United States, before terminologies of the general plan of the Yurok one are again encountered. As the Yurok are Algonkin, the interesting problem is raised whether it is possible that they have brought the outlines of an ancient system with them from their presumable eastern source of origin, and succeeded in maintaining the same for an undoubtedly long period in an entirely different cultural setting.

This query can be answered only after we know the kinship systems of the tribes immediately adjacent to the Yurok: the fellow Algonkin Wiyot; the Athabascan Hupa, Tolowa, and Chilula; and the Hokan Karok. It may prove that we have to deal with a surviving and re-invigorated importation; or, on the other hand, with a new local development due to obscurer causes.

The two or perhaps three classes of brother-sister designations in Yurok are very interesting, but more must be known concerning the distribution of the phenomenon, as well as of the etymology of the words in question, before a satisfactory interpretation is possible.

THREE-STEP RELATIONSHIP

Kindred removed by three steps of relationship, such as the great-grandfather or brother-in-law's parent,¹⁸ can of course be designated in all languages, either by compounds, by more or less descriptive additions, or by mere extension of meaning of the terms denoting nearer kin. Some systems, however, contain specific designations for certain three-step relations—like English "cousin." Such terms average two or three in number in the Californian systems, but their frequency as well as their meanings vary greatly according to language.

¹⁸ I count the brother, sister, and wife as one step removed.

The commonest three-step term is the self-reciprocal one denoting the parent of a child-in-law. This forms part of the Luiseño, Kawaiisu, Tübatulabal, Yokuts, Miwok, and Northern Paiute systems. These are all found in southern and central California or Nevada. If the gaps in our knowledge were filled, the distribution of terms with this meaning would probably be found to be continuous. On the other hand, there is an area in north central California in which specific terms for the child-in-law's parent have not been found. In this area are the Wintun, Pomo, Yuki, and perhaps Washo. For some of these information may be imperfect; but, on the other hand, the area may extend much farther northward. Mohave is also not known to possess a term of this significance. This may be due to mere oversight in recording, or to proximity of the Mohave to the Pueblo Indians, who do without. In the northwest, however, the relationship is expressed in Yurok, though possibly the primary meaning of the term is more general.

Great-grandparents and great-grandchildren are next most frequently denoted. Again Mohave stands out from a central and southern group, which consists of Luiseño, Kawaiisu, Tübatulabal, Yokuts, and Northern Paiute. The terminology in most of these is obviously secondary: derivatives from words meaning brother or sister, mother's sister, and ghost occur. Sex is sometimes denoted and sometimes not; the number of terms varies from one to four. In Luiseño there are terms for ancestors as far removed as the sixth generation. Miwok, the three north central systems, and Yurok lack words of this class, ancestors or descendants of the third generation being merged in those of the second. Mohave uses outright brother terms.

Specific cousin terms are restricted to the extreme south. Luiseño possesses one for cross-cousins, Mohave three or four narrowly limited words for particular kinds of parallel and cross-cousins.

Luiseño is the only language known to have a term for grandmother's brother or grandfather's sister. Several other relationships are included, but they are all three step.

Miwok, finally, has specialized in developing four terms to denote kindred of relatives-in-law: *haiyeme*, *kumatsa*, *moe*, *pinuksa*.

The peculiar Miwok terms may possibly be connected with a type of kin marriage that is best known among this group; though the correlation remains to be established. The cousin, great-grandparent, and child-in-law's parent terms, on the other hand, fail quite clearly to correlate in their distribution with any social practices. The last

might be thought to be associated with parent-in-law taboo; but, while still imperfectly known, the spread of this custom seems to run without relevance to that of the term. It is therefore difficult to avoid the conclusion that the occurrence of all these classes of terms is due to a merely conceptual attitude—a habit of mind or manner of thought which, originating among one people, was often gradually imitated by others.

CLASSIFICATION OF THE CALIFORNIAN SYSTEMS

The twelve systems that have been analyzed fall spontaneously into three classes. The first comprises the Mohave and Luiseño, both in southern California. The second consists, in the present state of knowledge, of Yurok alone. The third includes all the remainder, from the Yuki in the west and north to the Northern Paiute in the east and the Yokuts and Kawaiisu in the south. The geographical distribution of these three types, which have been established solely on the basis of what seems to be their inherent nature, coincides with the distribution of types of native civilization generally accepted for California; in other words, the three primary culture areas—the Southern, the Northwestern, and the Central.

Within the central group of kinship systems a generic and a specialized subtype are distinguishable. The former is represented by Yokuts; by Northern Paiute and Washo, which must be treated as a unit; by Tübatulabal and Kawaiisu; and probably by Yuki. No two of these systems are alike, but their differences are particularities of comparatively little moment as against their similar features. All of them are peripheral in the territory in which they occur. As the center of this tract is approached marked divergences begin to appear on the one side among the Pomo and on the other with the Miwok, until, in the heart of the area, among the southern Wintun, the specializing tendencies reach their height.

The characteristics of the southern Californian type of kinship are an enormous development of reciprocal expression, and a striking reduction of the terms denoting connections by marriage. Perhaps equally important intrinsically is the consistent recognition of the factor of lineage, as expressed terminologically in the distinction of cross and parallel relatives; but this is not an exclusive southern peculiarity. All of these traits seem typical also of the systems of the

Southwest, with which region southern California has many cultural correspondences.

The central Californian type, in its generic and presumably original form, is marked by consistent reciprocity within the grandparent and uncle classes of terms, but little at other points; by the distinction of cross and parallel relatives throughout; and by a fairly elaborate development of nomenclature for connections by marriage, parents-in-law, however, being denoted by a single term. This type of system seems to extend with but little variation across the Great Basin, whose Shoshonean inhabitants, it may be added, are culturally somewhat affiliated with the central Californians.

The specialized southern Wintun subtype is characterized by an extreme merging of relationships into one another, and a consequently small number of terms. This tendency has completely wiped out two of the three traits typical of the generic central form of system: the reciprocity and the abundance of affinity designations. The third feature, the consciousness of kind of lineage as expressed in difference of terms for parallel and cross kindred, remains in vigor only in the uncle class. Perhaps the salient trait of the system is the merging of near lineal with near collateral relatives as a consequence of the general reduction in terminology. The Miwok and Pomo follow the Wintun scheme less radically, and add certain characteristics of their own which must be looked upon as local individualizations.

The northwest Californian type, finally, if Yurok may be regarded as indicative of such a one and is not merely representative of its own particularity, disregards the distinction of cross and parallel relatives and reveals virtually no impulse toward reciprocal expression. The Yurok, to put it differently, come much nearer ourselves and the majority of Plains Indians than do any central or south California people in thinking in nearly every instance of the sex of the denoted relative¹⁹ and only rarely of the sex of the intermediate one.²⁰

There are some scattering data on several tribes not formally treated here. In general, these indicate systems of the type prevailing in the region of each tribe.

The available Costanoan data²¹ are in contradictory shape, but it

¹⁹ English, in 95 per cent of cases; Arapaho, Dakota, Pawnee, 90; Yurok, 85; other Californians, 60 to 80.

²⁰ English, 0 per cent; the three Plains tribes, 10 to 30; Yurok, 20 (wholly among connections by marriage); Wintun, about the same; other Californians, 40 to 60.

²¹ Present series, XI, 437, 471, 1916.

is clear that there was some merging of nephews and grandsons and probably of uncles and grandparents; in other words, a definite affiliation with the Wintun subtype.

Salinan, from whose two dialects thirty-four terms of relationship have been preserved,²² though very variously rendered, does not show this trait. On the other hand, there is conceptual without verbal reciprocity in the grandparent and uncle classes. Indications therefore point to Salinan belonging to the generic central type.

Chumash²³ is also central in character, with some leanings toward the southern type, as manifested, for instance, in distinct words used for "son" by father and mother. The primary distinction among grandparents appears to be on the basis of lineage, and among brothers and sisters on the ground of seniority, the denotation of sex being wanting or incidental. In the uncle class there are indications of four terms for seniors and four for juniors, exactly reciprocal but verbally distinct. The father-in-law and mother-in-law are denoted by one word.

For the Northwest, there are scraps from three languages. Wiyot, if the translations of its half dozen known terms may be trusted,²⁴ is of Yurok type. Hupa²⁵ may have grandfather and grandmother terms of English and Yurok type, but the uncle-aunt nomenclature is likely to be generic Californian. Chimariko,²⁶ finally, gives no evidence of leaning to Yurok methods. Uncertain as these meager data are, they hint that Yurok is representative of a specific California-Algonkin rather than a Northwestern Californian type.

KINSHIP AND TYPE OF CULTURE

A theoretical inference emerges from the distributional coincidence of types of kinship systems and types of culture in California. The correspondence can scarcely be accidental and meaningless. The type of culture must therefore be regarded as having helped to shape the kinship system. Now, the three Californian cultures differ but little in specific content. Nearly all the arts and ideas of one tribe recur among all the others. An inspection of a balanced museum collection from the various groups in the state invariably yields the impression of great uniformity, except as to finer detail; and reviews

²² Same, x, 169-172, 1912.

²³ Same, II, 42, 1904, and a few unpublished notes from Santa Barbara.

²⁴ Same, ix, 407, 1911.

²⁵ Same, III, 15, 1905.

²⁶ Same, v, 352, 363-370, 1910.

of the immaterial elements of civilization have always led to the same conclusion. There are distinctive customs and practices: slavery and plank houses in the northwest, masks and moieties in the central region, sand paintings and emergence myths in the south; but relative to the totality of cultural facts such peculiarities are few.

What, then, constitutes the reality and the essence of the cultural types prevailing in the three regions? Obviously, if it is not the substance of culture, it is its form; if not the discrete elements in any important degree, then their organization. An art or a custom may be practiced both in the south and in the northwest, but its emphasis or weighting be quite diverse, its associations and therefore its significance be thoroughly distinct. In short, the values of closely similar material are notably different. This is true of course of all cultural types as determined by history and ethnology and framed in culture areas or cultural periods. But in a compact and restricted territory such as California constitutes, the similarity of the civilizational material has an opportunity to be so high as to reach substantial identity; and its formal and associational individualizations become proportionally evident.

These organizations or values of cultural content are in their nature general and relative as compared with the more discrete and directly given cultural material. They are also more definitely "mental," more "psychic." When therefore we find cultures as wholes underlying kinship systems we must conclude that the latter have each been considerably influenced by the associational complex that we may denominate the "psyche" of its culture, that is, the ways of thinking and feeling characteristic of the culture. In this sense, then, we must recognize the influence, upon systems of kinship designation, of factors that, for want of another term, may be called psychological.

Exactly the same conclusions are reached from an examination of the subtypes within the central Californian culture. The recognition within this culture area of a generalized fringe, a more definitely organized core, and a highly specialized nucleus in the region of the southern Wintun, can be established for the ceremonial aspects of religion, for instance, exactly as for kinship systems. The remoter and mountain tribes are addicted only to uncorrelated and unspecialized practices, which nevertheless must be accepted as representing the basis of the religion of the entire area. Inside, within the great valley, a definite ceremonial organization prevails; and this in turn appears

to reach its greatest development, and to have received most of its formative impulses, from the peoples near the center of this valley, notably the southern Wintun. In the matter of religion, the distinctive achievement of the Wintun took the outward form of an elaboration; as regards kinship system, of a simplification. But in both the ritualistic elaboration and the terminological simplification there is involved a stronger adherence to an ideal scheme, more consequential carrying out of a consistent set of concepts, more order and organization, in short, a more developed revelation of "mental" or rather cultural activity. It would be absurd to posit the Wintun esoteric religious society and its impersonations of gods as the determining cause of the abnormal Wintun system of kinship nomenclature. But it is undeniable that they are parallel manifestations of the same manner or degree of "psychic" or civilizational operation in culture.

KINSHIP AND SOCIAL INSTITUTIONS

On the other hand, there are but few clear indications of an association, regional or otherwise, between types of kinship systems and types of social institutions pure and simple, that is, practices connected with marriage, descent, personal relations, and the like; and equally few instances of particular traits of kinship nomenclature according with specific institutions. Unfortunately, society is as yet perhaps the least understood aspect of the native culture of California. But we know something; and practically all the available information points in the direction of the conclusion just stated.

The Mohave and Luiseño systems have been seen to be similar. Yet the Mohave are organized into clans, whereas among the Luiseño there are only halting and somewhat doubtful approaches to clans, according to the most recent information secured by Mr. E. W. Gifford.

In central California a system of hereditary moieties is found among the interior Miwok, all the more northerly Yokuts, the western Mono, and probably the Salinans; and again in parts of southern California.²⁷ It may have prevailed among a few other tribes, but its further extension can not have been very great. It is not known to have existed among the Wintun, Pomo, Yuki, Washo, Northern Paiute, or southerly Yokuts. The distribution both of types of kinship systems and of special traits of kinship designation fails to agree with

²⁷ According to information secured by Mr. E. W. Gifford and embodied in a paper soon to appear from his pen in the present series of publications.

the distribution of these moieties. If there were any considerable causal correlation, the Miwok should form a unit as against the Wintun, the Pomo, the Washo, the southern Yokuts, and the other tribes of central California; whereas it appears from the previous discussion that the relations of these systems are quite otherwise.

In the northwest, it is difficult to recognize any specific social factors that might be correlated with the peculiar system of this region, or at least of the Yurok. There is extant for this area Dr. Goddard's excellent monograph on the Hupa, and I have undergone repeated association with the Yurok themselves, with the opportunity of seeing much of their intimate life; yet I cannot name a single strictly "social" aspect of their culture which is not closely similar to the corresponding institutions of all the other Indians of the state, with the lone exception of the fact that northwestern marriage is a definite purchase and the wife true property. With the best endeavor I cannot, however, devise a satisfying connection between this phenomenon and the peculiarities of Yurok terminology for relatives. It might be said that the purchase obliterates the personality of the wife and merges her in the husband, so that the distinction of paternal and maternal relatives follows as a consequence. But I cannot wholly persuade myself that the Yurok mind works along this channel, even in its deepest unconsciousness; and there is the contrary argument that if the wife is a chattel and only the husband a person, the distinction between the mother and the father, and their respective relatives, might be conceived of as being emphasized.

The parent-in-law taboo is in force over considerable parts of central California: among the Yokuts, Miwok, Pomo, and presumably Southern Wintun, of the groups here treated. It is not practiced by the Yurok, Yuki, Tübatulabal, Kawaiisu, Luiseño, or Mohave, and probably not by the Paiute and Washo. The custom might be correlated with the Wintun subtype of kinship system; but the correspondence does not seem very exact.

The taboo of the name of the dead, and of any allusion to them, is universal in California, and the various tribes adhere to the observance with much the same scrupulousness and emotional intensity; yet devices for avoiding or altering the designations of affinities by marriage after the decease of the person connecting them seem to vary considerably. Of course such devices ensure only a formal compliance with the taboo precept; in substance they can be regarded as just as potential for emphasizing the remembrance of the death. In fact,

we cannot be sure that such is not their true subconscious function. It would seem therefore that such terminological devices may prove to be the product of several interacting and perhaps conflicting cultural attitudes.

Where customary marriage of relatives prevails, it would seem likely to have some influence on kinship systems. This seems to be the chief reason for the undoubted correspondences of terminology and social practice in certain parts of Australia and Oceania; exogamy, descent, and marriage classes appearing to be involved, whereas a theoretically or actually prescribed marriage to certain kindred is the true shaping factor. With such marriage, definite and prescribed personal or functional relations between non-marrying relatives may be associated as a concurrent influence. In California, however, we hear very little of specifically determined relations between kindred; and other than the universal levirate, and its reverse, marriage with the wife's sister, the only form of marriage of kindred recorded is the cross-cousin wedlock of the Miwok and some neighboring groups. Mr. Gifford has shown very convincingly by analysis of circumstantial evidence that Miwok cross-cousin marriage, which does not accord with the Miwok designations of kindred, is a secondary result of the marriage of a man to his wife's brother's daughter. This form of marriage, and the marriage of the brother's widow or the wife's sister, are reflected in Miwok nomenclature to the extent that a dozen kinship terms are in thorough accord, in their full range of meanings, with each of the practices. It is thus clear that certain forms of what might be described as statutory marriage have helped to shape and color kinship terms among the Miwok; and the same condition may be expected to prevail among other tribes.

The marriage to the wife's brother's daughter I am disposed to regard as a local modification, under the influence of the moiety system, of the widespread Californian custom of marrying the wife's daughter. Where there are moieties, the wife's daughter must be of the same exogamous division as her stepfather and therefore ineligible to him; the wife's cross-niece, that is, her brother's daughter, is the nearest relative available to take her place. Over most of California, accordingly, it is marriage to the wife's daughter, the wife's sister, and the brother's widow that would have to be examined as potential influences upon the kinship system. There are a number of indications that this influence has been realized. Such, for instance, is the designation of the mother's younger sister and the stepmother

by a single word. On the whole, however, my material is so much less complete than Mr. Gifford's Miwok data, especially in lacking most of the remoter meanings of the recorded terms, that any intensive examination of the degree of correlation on these points would be prematurely unsatisfactory.

To return once more to general social structure, it is highly probable that all differences in the formal organization of society are superficial in California. Most tribes lack any such formal scheme; and where it exists, as among the Miwok and the Mohave, it rests lightly upon the whole cultural fabric. Its points of contact with the civilizational complex are few, its impressions of the lightest. This is shown by the fact that organizations like that of the Miwok remained undiscovered for many years. On a reasonably wide view, accordingly, society appears to be substantially the same in type in all parts of California; in contrast with which condition, kinship systems display a rather profound diversity.

SUMMARY

In fine, types of kinship classification exhibit so close a distributional correlation with types of culture as complex wholes, that it must be concluded that these cultural wholes have been influential in determining the fundamentals of kinship systems. The characteristics of such culture wholes consist in associations or relations rather than in content; and it is the formalizing or "psychic" impulses implied in these associations or relations that accordingly have largely shaped kinship terminology. On the other hand, specific social structure on the whole shows very little correlation with kinship classification in California. At one or two points a specific element of culture content, especially prescribed marriage between relatives, has unquestionably affected kinship terminology at specific points, without, however, appearing to affect its fundamental plan consequentially.

THEORETICAL CONSIDERATIONS

Some years ago I tried to substantiate a conviction that the customary discrimination between "classificatory" and "descriptive" kinship systems was erroneous and misleading; that a truer and more useful distinction between these two kinds of consanguineal terminology could be found through a consideration of the differences of method employed by various nations in handling certain groups of

concepts, in short, through an analysis of psychological factors; and that in general such psychological factors were chiefly determinative of kinship designations.²⁸

This position has been reviewed and combatted by Dr. W. H. R. Rivers in his admirable little book, *Kinship and Social Organization*,²⁹ devoted to the thesis that kinship nomenclature is shaped chiefly by social institutions. Nearly every one who has subsequently discussed the matter in print has wholly or largely endorsed the view of Dr. Rivers.

I must admit that my essay is characterized by some over-statements. I do not wish and have never wished to maintain so sweeping and unqualified a proposition as that terms of relationship reflect psychology wholly and sociology not at all. When it is the custom among a people for a man to marry his mother's brother's daughter, and also the custom for him to call his father-in-law his mother's brother, it would be dogmatic and a waste of time to argue against the very high probability of the two practices being connected.

In regard to what may be construed as a retraction, I will only urge that the view which I was criticizing, and which Dr. Rivers has come to rescue, had been practically unquestioned for nearly forty years, and had attained considerable vogue even outside of specific ethnological circles. It had also been held without any real examination of the validity of its involved assumptions. That in venturing into opposition I was led—in one or two of several recapitulations of my position—into an unnecessary curttness of expression, was therefore perhaps natural. What is more to the point, I believe it to be a matter of little moment to the real issue.

The underlying aspects of this issue are touched upon in the last paragraph of both Dr. Rivers' essay and mine. In this conclusion I deplored the inclination of modern anthropology to "seek specific causes for specific events," and maintained that "causal explanations of detached anthropological phenomena can be but rarely found in other detached phenomena." Dr. Rivers, on the contrary, affirms that kinship nomenclature presents a case "in which the principle of determinism applies with a rigor and definiteness equal to that of any of the exact sciences." He avows as his chief object the demonstration that the forms of kinship designation have been determined by social conditions; and concludes that "only by attention to this aim [deter-

²⁸ Journ. Roy. Anthr. Inst., xxxix, 77-84, 1909.

²⁹ London, Constable & Co., 1914.

ministic proofs] throughout the whole field of social phenomena can we hope to rid sociology of the reproach, so often heard, that it is not a science; only thus can we refute those who go still further and claim that it can never be a science."

Dr. Rivers thus maintains and I deny that social science is a true science. If I understand him correctly, he is interested in why things are, I primarily in how they are. His steadfast motive is to explain social phenomena, whereas I deliberately limit my purpose to characterizing them. Without a recognition of this diversity of conception of the aim, and therefore the method of ethnology, the essential relation between the views held by Dr. Rivers and myself in regard to the comparatively small question of kinship designations can not be thoroughly and significantly apprehended.

From the one point of view, an intrinsic interest inheres in any group of social phenomena as such. If they are analyzed, it is chiefly that they may be more fully apperceived; if they are synthesized with others, it is because the phenomena themselves become more truly known in proportion as their relations to the whole of civilization are visible and realized. To the other attitude of investigation, phenomena are only a starting point. This method seeks abstractions; it determines causes and effects. However frequently it returns to actual phenomena, it perpetually uses these only as a ladder by which to mount to higher and wider generalizations. Dr. Rivers maintains that a non-deterministic ethnology is not science. I do not consider an ethnology which professes ability to explain much of culture to be ethnology.

On this general distinction of purpose hinge the differences of opinion as to kinship terms. From Lewis H. Morgan to Dr. Rivers, generic stages of social development or broad principles have been sought; and kinship systems as a rule have been only pegs on which to hang theories concerning such stages. Whatever value my paper may or may not have had, it did not share this aim, and represents a genuine attempt to understand kinship systems as kinship systems. The concepts or categories with which the essay operates are not new. All of them may be found distinguished, for instance, in the work of Dr. Boas. But a systematic and comparative application of them led to the recognition that the current divisions of systems into "classificatory" and "descriptive" was misleading in that it did not refer to the most essential features of our systems as contrasted with those of so-called savages. I then attempted to show that a deeper classi-

fiction, and therefore interpretation, could be based on an analysis of the use to which the categories are put by various nations. Right or wrong, serviceable or not, this was at least an effort at construction, and therefore the essential part of the essay, as appears from the fact that three of the four propositions in the summary are devoted to this interpretation. It is exceedingly significant that these propositions have been entirely ignored by Dr. Rivers, and by nearly every one else who has been concerned with the subject; whereas my fourth proposition, which was essentially negative in that the primacy which it awarded to psychological over social determinants assailed the current method of utilizing kinship designations for social reconstructions—this negative proposition aroused sufficient interest to cause Dr. Rivers to devote considerable part of a book to it. I am confident that if the main argument of my essay had been the unfolding of a theory—a causal hypothesis—instead of an endeavor merely to realize phenomena better and facilitate their being understood still more truly in the future, it would not have been passed over in silence.

The particular form which ethnological theorizing has most frequently taken has been the formulation of schemes of development of institutions, with a special predilection for schemes of development of those institutions that are concerned with marriage and descent. For the elaboration of such schemes, kinship terminologies are plausibly promising. And, on the other hand, if kinship terminology does not consistently mirror the organization of society, an important buttress for such theoretical reconstructions falls. It was logically necessary for Dr. Rivers to write *Kinship and Social Organization* before writing the *History of Melanesian Society*. If the contention that kinship systems are determined by psychological factors is only partly correct, one of the most serviceable methods of reconstructing former stages of society is eliminated. I can and do without prejudice avow sociological determinants beside "psychological"³⁰ ones—for that

³⁰ I regret the term "psychological," and should use another were it not that its avoidance now might seem an evasion of the issue raised by me seven years ago, and by some would certainly be construed as an admission that I had shifted the basis of my contention. I do not mean, and have never meant, that terms of relationship can be explained directly from the constitution of the human mind. They are social or cultural phenomena as thoroughly and completely as institutions, beliefs, or industries are social phenomena, and I am in absolute accord with Dr. Rivers' conviction that social phenomena can be understood only through other social phenomena. In common with most anthropologists, I hold any attempt to derive cultural facts directly from the nature of human mentality to be illusory. Culture and all its parts are a content. They are framed and limited indeed by mentality. But the endeavor to express the nature of the content through the nature of the mechanism of mentality is as vain as it would be to explain the quality of a substance in terms of its form,

matter, economic and religious ones also. Dr. Rivers cannot concede "psychological" influences beside his sociological ones, because there-with his supposed recording instrument or index becomes inaccurate. He is establishing positive determinations of causality, or at least of sequence, and cannot admit variable and undeterminable factors into his calculations.

The real question regarding kinship designations therefore is not the literal one of whether the terminology is wholly of psychological or of institutional origin. Nor does it very seriously concern the relative strength of each of these influences as a general proposition. It would be as silly to quarrel about that as to argue whether there are more flat or more round objects in the world. In such matters each case must be considered separately and no principle is involved. The true immediate issue is whether kinship terminologies are determined so thoroughly by institutions that they can be reliably used to construct hypothetical schemes as to institutions, or whether their determinants are so frequently non-institutional that they cannot be

or to approach an understanding of the sense of written words through a study of the pen. When, therefore, I spoke and now speak of terms of relationship as conditioned by "psychological" factors, I have in mind the sort of factors to which a philologist might properly ascribe the presence of a grammatical dual in a language. These factors would obviously be comparatively vague and abstractable. In a sense they would be characterizable, like everything in speech, as directly expressive of a manner of thought—not of course a spontaneous outgrowth of the pure human mind uninscribed by culture, but rather, as it were, a more general and conditioning aspect of cultural content. Dr. Rivers' views, on the other hand, I should compare—if I may without prejudice use an unflatteringly crude comparison which nevertheless I believe to be true in spirit—to the explanation of the grammatical dual in speech as due to the prevalence of dualistic philosophy, or the institution of non-pluralistic marriage, that is, monogamy. When I state that the use of identical terms for such relatives as the father-in-law and grandfather, or the brother-in-law and brother in some languages, is to be understood as "due to" the fact that these relationships possess several categories of kinship in common, this abstract similarity is obviously not the ultimate or whole cause, since this interpretation leaves unexplained the fact that in most languages these relationships are denoted by distinct terms. That one language employs certain categories of kinship classification and slights others, and another language employs and slights different ones, is itself obviously a cultural or social phenomenon; but it is precisely these varying tendencies of languages and nations toward the use of the categories that I denominate "psychological" factors. Perhaps "sociological" would have been a better word, though probably liable to misinterpretation in other ways. If Dr. Rivers or any one else can replace my "psychological" with a less elusive term, I shall be sincerely grateful to him. Meanwhile I can only continue to use the word, and trust that what is here said in regard to its significance will be sufficient to prevent confusion, and to relieve me of the suspicion of wishing to revert to the methods of mid-Victorian ethnologists.—The words "social" and "sociological" are also capable of two constructions. In the wider sense, of course, they are equivalent to "cultural" or "civilizational." In the sense in which Dr. Rivers uses them, or I employ them in discussing his views, their significance is much narrower, and they are substantially equivalent to "institutional," with prime reference to marriage, laws of descent, and personal functions.

utilized in such endeavors. And behind this lies the larger ultimate question whether specific social phenomena of any kind can be assigned as the sole specific causes or "determining" causes of other social phenomena; or whether the nearest possible approach to "explaining" phenomena such as kinship systems lies in tracing the features of the involved "psychic" or cultural activities common to them and other phenomena.

On the immediate problem, indications that influences other than social institutions enter into kinship nomenclature have already been presented in various parts of the descriptions and analyses of specific California systems that constitute the first and larger portion of the present paper. In the section devoted to a classification of these systems, further instances of the frequent dominance of "psychological" over narrowly social determinants have been adduced, as well as some evidence that the shaping influences are generic impulses rather than specific phenomena, so that the ultimate question may also be considered as answered.

The case seems therefore established on the basis of concrete data which need not be recited; but it may be worth while to add some broader considerations.

1. In the first place, the obvious fact that we approach kinship systems through the terminologies in which they are expressed constitutes them a part of speech, and it is therefore impossible to understand how the serious claim can be advanced that they should be withdrawn entirely from subjection to those psychological and linguistic influences which shape all language. All words necessarily classify according to certain principles which usually are not more than half conscious. There is no conceivable reason why terms of relationship should be an exception, and no evidence that they are. When we find that one nation frequently introduces the idea of the sex of the speaker into its kinship terminology and another nation fails entirely to do so, it is obvious that their classifications have been made according to a different conceptual principle; or, to put it otherwise, that the involved psychology³¹ is different. Now it is of course possible to meet this situation with the explanation that the psychology itself indeed differs, but that it diverges exclusively under the influence of social institutions. This attitude is certainly logically possible, but I think it will be generally granted that it is such an extreme attitude

³¹ The word "psychology" is to be understood in the sense discussed in note 30.

that the probability of its universal or even general truth is slight, and that the burden of proof is clearly upon those who hold this view.

We have in English the curious habit of designating an oyster or a lobster as a "shell fish." The word "fish" unquestionably calls up a concept of a smooth, elongated, free-swimming water animal with fins. The only conceivable reason why a flat and sessile mollusk without any of the appendages of a fish, or a legged and crawling animal of utterly different appearance, should be brought in terminology into the class of fishes is the fact that they both live in the water and are edible. Now these two qualities are only a small part of those which attach to the generic concept that the word "fish" carries in English; and yet the wide discrepancy has not prevented the inclusion of the two other animals under the term. All speech is full of just such examples, and no one dreams of explaining the multitudinous phenomena of this kind by reference to social institutions, former philosophies, or other formulated manifestations of non-linguistic life, or of reconstructing the whole of a society from a vocabulary. Such endeavors in "linguistic palaeontology" have indeed been made; but the general consensus is that while they undoubtedly contain some truth, they are on the whole of little value because the interaction of social and linguistic influences is too indeterminate, and each of these sets of influences too variable, to allow of any positive conclusions being attained except possibly now and then on special points.

If, for instance, it were argued that English classes the oyster and lobster with fish, and that other languages, perhaps German and Chinese, class them with turtles, because the English are an insular nation that subsists on an abundance of sea food, whereas the Germans and Chinese are essentially inland peoples, the explanation would strike nearly every one as extremely far-fetched. In addition, the conflicting contention could be set up that a maritime and fish-eating people could be expected to be far more discriminating in their designation of sea animals than an interior people. It seems to me that some of the explanations of kinship systems on the basis of social custom are substantially of a type with this example.

2. It is extremely important to guard against subjective selection of interpretation in a field of such delicate refinement as kinship nomenclature. When among ourselves a minister of religion or a socialist orator addresses his audience as "brothers" we say that the speakers are indulging in metaphor. When we refer to our brother-in-law as "brother" we are merely slovenly familiar or intimately in-

correct. On the other hand, when a so-called savage names his father's brother "father," we immediately tend to have recourse to the levirate as explanation; when he designates his cousin as "brother," we think of this as a survival of group marriage; and when he calls the members of his clan "brothers," we are inclined to assert that in his nation the family of blood kindred is entirely merged in clan organization. We forget too often that uncivilized people are as likely as we to indulge in figures of speech and in short-cuts of expression. They would be very inhuman if they did not. But, of course, the more we can reduce them to the level of machines, automatically operating according to a few simple principles, the more convenient do they become as an instrument with which to unravel theoretical speculations.

3. An influence that is wholly terminological, and therefore at once "psychological" and linguistic, is the impulse toward reciprocal denotation or form of kinship terms. It is evident on wholly abstract grounds that this must materially affect the systems into which it enters. The moment a term implies sex and has an exact reciprocal, it is clear that the reciprocal must express the sex of the speaker, and not that of the relative, so that a variant principle is introduced; or else both terms must denote both categories, which means that the number of distinct terms is duplicated or quadruplicated. The latter is a result that most languages evidently shrink from, and the former course is usually followed. In either case, however, there is a distinct shaping of the system as a result of the reciprocating tendency.

When a Papago, whose system is thoroughly pervaded by reciprocities, has words meaning "older brother or sister" and "younger brother or sister," which are reciprocal, instead of our non-reciprocal "brother" and "sister," it is as clear that this part of his nomenclature reflects the "psychological" tendency toward reciprocity, as that terming the father-in-law "mother's brother" reflects a social institution when it is customary to marry a cross-cousin.

The use of descriptive phrases instead of radical words to denote connections by marriage is again a "psychological" trait. In French, the son-in-law and daughter-in-law are denoted by distinctive stems, the parents-in-law by circumlocutory ones analogous to those of English. German follows the English plan, except for retaining some obsolescent radicals. The same tendency has become operative in all three languages, but with varying degrees of completeness. This is simply a philological phenomenon entirely parallel to the fact that the plural of "ox" has remained "oxen" instead of becoming "oxes."

No one would dream of arguing that French, English, or German marital customs must be different because the kinship terms in question are formed on a different plan. And so when Luiseño and Northern Paiute and Papago use circumlocutory expressions for many connections by marriage, and Mohave and Yokuts and Tübatulabal and Miwok do not, there is also a distinctive difference of system without any reason for an assumption of a corresponding difference in social organization.

This influence of reciprocity is particularly clear when circumlocutions and reciprocal expression are combined. A Papago woman calls her son-in-law *moih-ok*, that is, *ok* or father of her *mos*, a woman's daughter's child. The son-in-law calls her the same. There is no form of marriage or social institution that will explain why an old woman should be called the *father* of anybody's granddaughter, why the man referring to her should speak of himself as a *female*, and why he should designate her the parent of *his* daughter's child when it is *her* daughter that has the child and he himself is without grandchildren. It is clear that there is nothing at the bottom of this usage but a strong tendency to call a connection what the connection calls oneself, operating upon a stock of descriptive terms. There is no inconvenience or confusion in speaking of one's mother-in-law as somebody's father; for in doing so a man uses a woman's term; which combination, by exclusion, exactly specifies the lady referred to. From our literal point of view, the Papago is absurdly illogical in this matter. But he is practical, since his procedure not only isolates the person in question as thoroughly as ours but allows him to employ the reciprocity to which he is accustomed and which satisfies a habitual psychic need.

4. In most discussions of kinship systems the innermost kernel is hardly touched upon. Relatives only one step removed are neglected for those two and three steps distant. We hear much of the fact that cousins are called brothers, but little of the entirely different methods of distinguishing brothers. A great deal is made of the circumstance that the father's brother is often merged in the father, terminologically, but very little attention is paid to whether parents are designated by four terms or by two or by one. The mother's brother's daughter is far more important in most kinship discussions than the sister. In short, the most fundamental and primary relationships are disregarded because the remote ones lend themselves to readier correlation with social institutions. Some nations have one word for

older brother-sister and one for younger brother-sister; others one word for brother-sister of the same sex as the speaker and one for brother-sister of different sex; and still others one word for male and one for female brother-sister; in short, various peoples express respectively only age, relative sex, and absolute sex in this class of kinship; while still others express them in different degrees and combinations. Surely if there is anything of consequence in kinship it is these nearest of relationships, and diversity of terminological classification is as extreme for them as for any other group of kindred. Yet because they do not lend themselves to theoretical reconstructions of marriage systems, they have been passed over in almost complete silence. Dr. Rivers is therefore more sanguine than accurate when he states in the conclusion of his book that not only the general character but every detail of systems of relationship has been demonstrated as determined by social conditions. The parts of systems that correlate with social conditions have indeed been correlated by him; but those parts that do not correlate have for the most part not even been considered.

5. Finally, it is not only theoretically conceivable but an actual fact that terminology has at times influenced marriage institutions. This is as it should be, for in the wider sense of the word terminology is as much a social phenomenon as marriage, and an *a priori* denial that any class of social phenomena is capable of affecting any other class is certainly unjustifiable. In Roman Catholic nations, as Andrew Lang has pointed out, the god-father does not marry the god-daughter. Here there is no kinship at all; but the mere name has resulted in a taboo of wedlock. If civilized European people can take their metaphors so seriously as this, it is likely that rude heathens represented as living in a world of symbolism have sometimes done so.

It may be suspected, for instance, that the Chinese prohibition of marriage between persons of the same family name is due to a similar secondary scrupulousness, instead of being a survival of an ancient clan system, as it is customary to state. Of course what is wanted in a situation like this one is not a conviction that this or that interpretation is true, but a substantiated case made out by a sinologue who commands knowledge of his subject as well as critical faculty. Yet the instance is not without suggestiveness as it stands.

It is perfectly true that every one should expect customs to shape names more frequently than names shape customs. Those who are ready to recognize a variety of factors as entering into terminology

can admit this disproportion cheerfully. But those who are bound to schemes of rigorous and exclusive explanation through social institutions can not permit the introduction of even the rarer instances of priority of terminology without fatally dulling the edge of their working tool.

If the issue were primarily the narrower one of the preeminence of so-called psychological and so-called social influences on kinship systems, I should still lay more stress on the former influence, because, after all, kinship systems are terminologies, terminologies are classifications, and classifications are reflections of "psychological" processes—just as I should expect religious phenomena to be influenced chiefly by other religious phenomena and only in a lesser degree by social, economic, or technical factors. I also construe the evidence as actually bearing out this interpretation. Yet I am ready to concede freely that "social" influences—and religious and economic ones—have entered in some measure into kinship systems, at times to a considerable degree even. But back of this aspect of the problem lies the basic issue: whether kinship terminology is determined rigidly by specific social phenomena of only one kind, and can therefore be utilized for constructive causal explanations of societies; or whether all classes of social phenomena can and do interact on such terminology, and the infinitely variable play of the variable factors forbids any true determinations of causality of a sweeping character. Two irreconcilable methods of prosecuting ethnology and history here confront each other. It is the magnitude of this conflict of ideals that gives some dignity and perhaps consequence to the question of kinship terminology, which otherwise would be but a technical if not a trivial problem.

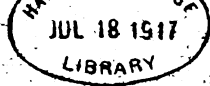
I am aware that the causal and deterministic method has in its favor the appearance of far greater productivity, and that it often tempts with immediate profit. It can give the public the hard and fast formulations and the definitely final reasons for which the public hungers. It is also assured of a warmer recognition from scientists—natural scientists—who, unable to follow each historical situation in detail, tend nevertheless to see in this method a welcome extension of their tried methods to new fields.

But I am convinced as I am of few things that this method as it has been and is practiced in ethnology is vain; that its results are illusory in proportion as they are plausible; and if ever cultural phenomena are subject to causal and deterministic analysis, it will

be in ways and with results utterly different from the methods and conclusions in vogue today. It is from this conception that I have approached the problem; and ungratefully negative as the conclusions may seem, I believe that the evidence bears them out.

Dr. Rivers has rendered service to ethnology paralleled by few men. He has made valuable contributions to the critical methods of recording material. He has amassed noteworthy data, and has boldly and imaginatively attacked them without recourse to interpretation by physical and organic factors, and steeled himself no less against the more insidious temptation to explain culture in immediate terms of spontaneous psychology. There are those who wish that he might return to the path so brilliantly blazoned in the earlier *Todas* rather than continue in that pursued in the *History of Melanesian Society*. But all students of ethnology, those who differ as well as they who agree with his arguments, must be grateful to him for the consistency of his presentation, his courage, the directness with which he has met problems, and the precision with which he has defined them. In the present question the ultimate verdict must be left to others: I shall be satisfied if I have helped to clear the issue to the same degree on one side as Dr. Rivers has cleared it on the other.

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CEREMONIES OF THE POMO INDIANS

BY
S. A. BARRETT

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CEREMONIES OF THE POMO INDIANS

BY
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INTRODUCTION

It has been at least twenty years since the last of the Pomo ceremonies was held in a truly aboriginal fashion. Elaborate ceremonies of a more recently introduced "Messiah" cult were held as late as perhaps fifteen years ago, but these "Messiah" ceremonies contain only a few features common to the indigenous tribal observances.

Dances are even yet to be seen in connection with some celebrations, principally on the Fourth of July, but there now remains so little that is really primitive about these that they are virtually worthless to the student. Information obtained through direct observation is at present, therefore, impossible, and we must depend for our knowledge of Pomo ceremonies and ceremonial organization upon the statements of the older men, and particularly those concerned with such matters in former days. From such sources rather full information concerning some of the ceremonies and dances is obtainable, but, under the circumstances, it is impossible to secure exhaustive data concerning all of them. In many instances informants recall only a few of the details of a given ceremony or dance. Sometimes only its name is remembered. Doubtless even the recollection of some ceremonies and dances has been lost.

During a residence in the Pomo region from 1892 to 1904 the existing vestiges of some of these Pomo ceremonies were observed whenever possible, but no attempt at a systematic collection of data on the subject was made until 1903 and 1904, when this work was undertaken in conjunction with the collection of Pomo myths, as part of the investigations of the Ethnological and Archaeological Survey of California, maintained by the Department of Anthropology of the University of California through the generosity of Mrs. Phoebe A. Hearst. This information was obtained from informants of three Pomo dialects—Northern, Central, and Eastern. Where a native term is used in the following pages, therefore, the dialect is indicated by N, C, or E, in parentheses directly after it. The phonetic system employed is fully explained in “The Ethno-Geography of the Pomo Indians.”¹

CEREMONIAL ORGANIZATION

The ceremonial organization of the Pomo was very loose. There was no secret society of importance, as there was among the Maidu and presumably among the neighboring Wintun, and no organized priesthood vested with control over ceremonies. The ordinary chiefs, however (or “captains,” as they are more often called), were prominently concerned with all ceremonies, and there were other officials in charge of particular rites. We may begin therefore by mentioning the various officials in the order of their importance.

¹ Present series, vi, pp. 51–54.

OFFICIALS

As has been elsewhere pointed out,² the social organization of the Pomo is based primarily upon blood relationship, the blood relatives who resided in a definite village grouping themselves into a political unit under the leadership of an hereditary "captain." Usually several of these consanguineal units comprise a village, and their captains form its governing body. From among these the people elect a head captain. Not even the head captain has absolute authority, nor has any captain important judicial power, or power to inflict punishment. In short, the function of the captain is primarily that of adviser to the group. The special duties of the head captain in olden times were to welcome and entertain visitors from other villages, and to meet in council with the other captains concerning matters of general public welfare, and to arrange for and preside over ceremonies.

What may be termed an honorary captainship was accorded any man who, through his wealth or his prowess as a hunter, made himself very popular by providing large quantities of food and numerous feasts for the people. A similar honorary office, that of female captain, *da' xalik* (E), was based upon a woman's popularity, which depended in turn on her good-heartedness and her fame as a cook. Neither of these honorary offices, however, was hereditary. In spite of the ambiguous nature of the office, incumbents were accorded great respect at ceremonies and other public functions.

The other officials had duties almost, if not quite, exclusively connected with ceremonies and had nothing directly to do with governmental affairs. We may recognize the fire-tenders, the head singers, the chorus singers, the drummers, and the masters of ceremonies. Such offices were considered very honorable and were, as a rule, hereditary. This was particularly true of the offices of fire-tender, head singer, and drummer, in which the succession followed precisely the same rules as did the chieftainship.

The fire-tenders, called *me'dze* (N) and *la'imoc* (E), were officials of very great importance. Connected with each of the large, semi-subterranean "dance-houses"³ there were two fire-tenders, who saw to all matters concerning the fire and the preparation of the dance-house except actually procuring the firewood. All the men

² "The Ethno-Geography of the Pomo and Neighboring Indians," present series, VI, pp. 15-17.

³ An article by the present writer called "Pomo Buildings," in the *Holmes Memorial Volume*, fully describes these structures, which were erected especially for ceremonial purposes and which formed the religious centers of Pomo villages.

participating in the ceremony were supposed to bring wood, which they placed just outside the dance-house. One of the fire-tenders then carried it up and dropped it through the smoke-hole, while the other stacked it in ricks in the proper places within the house. As remuneration for their labor, they received the beads which were thrown at the dancers⁴ by the people during the ceremony and which were swept up when the dance-house was cleaned.

The head singer, called *ke' kai tea* (C) and *ke'ūya* (E), was a man of great importance in ceremonies, though he was very inconspicuous. It was his duty to plan previously the proper sequence of the dances and songs, and it was also his duty to start all songs and to carry the air. The head singer had to possess a very good voice, and had to make it his business to know the songs for the various ceremonies. Now and then he was at a loss for the proper song for a particular occasion. He was allowed to consult some other singer, or, upon occasion, he might ask for suggestions from the audience. Any one who knew a song which fitted the occasion might come to the head singer and sing it for him in an undertone, until he caught it and was ready to lead in the singing. As a rule he kept time with a split-stick rattle, or a rattle made of cocoons.

The chorus or burden-singers, called *skam* (E), gave volume to the music and marked time with their split-stick rattles, *hai mitamitaka* (N). Their usual burden was "he, he, he, he, . . ." sung in a heavy monotone.

The drummers, called *tsīlo' gaūk* (E), *tsīlo' tea* (C), and *tsīlo' matūtsi* (E), were always two in number, and as a rule they took turns in playing the large wooden drum which was set in the ground at the rear of the dance-house, and which was beaten by the stamping of the feet. The office of drummer was considered one of the most important, and second only to that of fire-tender.

The master of ceremonies, called *xabē' dima* (E), *xabē' gaūk* (E), and *he'līma* (C), started and stopped all songs and dances by certain signals. The participants in the dance usually maintained certain positions, but the master of ceremonies ran about from place to place supervising the activities and giving directions as required. His

⁴ The reason for the throwing of the beads is as follows: Pomo custom prescribes a period of mourning lasting one year. If a dancer so far forgets his sorrow as actively to participate in a ceremony of this kind before the expiration of the prescribed mourning period after the death of a friend or relative some atonement is required. It is customary under such circumstances for some one in the audience to throw some loose shell-beads at the dancer, these being evidently intended as an offering to the spirits and having nothing directly to do with the dancer himself.

presence was absolutely necessary at all ceremonies, and without him a dance could not proceed. He acted under the general direction of the head captain, but that official himself never served as master of ceremonies. Very rarely did the same individual serve as master of ceremonies and head singer. While as a rule the drummers and the singers wore no special dress for ceremonial occasions, the masters of ceremonies were almost always painted and dressed according to different requirements for each ceremony (see below). They were usually among the dancers who impersonated supernatural beings.

GENERAL FEATURES OF POMO CEREMONIES

A ceremony always centered about the dance-house,⁵ and lasted four nights, or some multiple of four, beginning usually soon after sunset. In the case of the "ghost ceremony," which began at sunrise, the preceding night was spent in performing other dances. Such ceremonies were made up of a varying number of dances.

There was usually no prescribed sequence, but the ceremony took the name of the dance which was its special feature, though this need not necessarily open the ceremony. In a few instances it was recognized that certain dances should be performed together.

A ceremony consisted of (1) an introductory procedure, accompanied by more or less ritual, such as the initiation of the children through the *gū'ksū* ceremony (see below, p. 425); (2) a series of dances; (3) a series of speeches by officials and men of importance concerning the religious life or other matters of public interest; (4) a final purification rite; and (5) various feasts, particularly one held in the morning after the final night of the ceremony.

There were certain special ceremonies, such as the *gū'ksū* ceremony, in which a definite opening procedure was required, but after this almost any desired dance might be held at any time, day or night, throughout the duration of the ceremonial period. The procedure of the final night of the ceremony was also usually fixed.

The principal ceremonies of the Pomo were:

The *xahlū'igax xaikilgaiagiba*⁶ (the "ghost" or "devil" ceremony).

The *kalimatōtō xaikilgaiagiba* (the thunder ceremony).

The *gū'ksū xaikilgaiagiba*.

The *da'ma xaikilgaiagiba*.

⁵ For a description of this large semi-subterranean structure see "Pomo Buildings," by the present author in the *Holmes Anniversary Volume*.

⁶ These words are in the Eastern Pomo dialect.

INVITATIONS TO CEREMONIES

The captains of the village discussed with other important men the question of holding a ceremony, just as they discussed other matters relating to the general public good. Having agreed upon the date and other details, the head captain usually walked through the village delivering an oration, as was customary upon occasions of importance, in which he announced to the people the decision of their captains. This oration might, however, be delivered as he stood before the door of his own house or before the door of the dance-house.

Invitations were then sent to the people of other villages to attend the ceremony. This was done by means of a special invitation string. Wormwood or willow sticks about two inches in length were tied, each separately, into a short string, the number of sticks being equal, according to some informants, to the number of days intervening before the ceremony was to begin, usually not fewer than two or more than eight. Other informants stated that this number was equal to these intervening days plus the number of days during which the ceremony was to be held. For instance, if a four-day ceremony was to begin four days hence, these being the usual numbers in both instances, eight sticks were tied into the invitation string. According to another informant, if the number of sticks was from two to five, the guests were invited for the first of two or more ceremonies. If six or more sticks were present, they were to come for a later ceremony. This latter, however, seems to be rather improbable. To one end of the string was tied, as an ornament, a small section of forehead-band made of yellow-hammer feathers. This string might be presented as such, but frequently it was tied to the end of a wand about two feet long. Its general name among the Central Pomo was *haidel*. Before sending, it was called *ha'iebü*; after it had been sent out, it was termed *ha'idakaū*.

A messenger took this string or wand to the captain of the village invited and, if it was necessary for him to make a journey of any considerable length, he broke off a stick for each day of his journey. According to most informants, he simply delivered the string to the head captain of the invited village and immediately returned home with the message of acceptance from that village. According to one informant, however, he remained as the guest of the head captain, and himself broke a stick each day from the invitation string and finally conducted the visitors to the ceremony.

As a rule, visitors arrived at least one day before the ceremony

began, but they never entered the village itself until the morning of the first ceremonial day, making camp meanwhile at some convenient spot within a short distance. The visitors collected a present of a considerable number of shell beads, which was carried by their head captain as he led them into the village. Some, at least, of the younger men among the visitors attired themselves in their dance costumes and danced into the village, usually following a little apart from the rest of their people.

As soon as the visitors appeared in sight, a watchman, stationed on the roof of the dance-house, gave notice to the head captain, who was inside. He at once came out and, taking a position directly in front of the dance-house, delivered a short oration inviting the visitors to enter and making them welcome. As the visitors entered each group was assigned to its particular position in the dance-house, and all seated themselves with their head captain, captains, fire-tenders, and other officials in front. When the head captain of the host village finally entered the dance-house, which was not until after all the visitors had taken their seats, he was called by the visiting head captain to their position. The visiting head captain then made a short speech of presentation and gave the beads to the host head captain, who made, in return, a second and more lengthy speech of welcome. He then took these beads to his own house, and they were later divided among his people. A present of equal value was returned to the visitors, either immediately or at some time before the close of the ceremony.

This formality of welcome over, some dance might be held at once or the guests and hosts might enjoy a general visit. If one of the secret ceremonies was to be held, all the women and children and the uninitiated men retired from the dance-house before it commenced.

THE GHOST OR DEVIL CEREMONY

This ceremony was perhaps the most important of the four-day ceremonies of the Pomo. It was usually held in the spring and was witnessed only by properly initiated men, never by women or children. The uninitiated men, as well as the women and children, were much afraid of these dancers and kept a very respectful distance when they entered the village. This was due to the belief that to approach closely would produce serious illness.

Such esoteric ceremonies are unusual among the Pomo, though

they occur among other California tribes. As examples might be mentioned the Hesi ceremony among the Wintun and Maidu, especially among the Maidu, who have a definite secret society.

STEPHEN POWERS ON THE GHOST DANCE

The ghost dance of the Pomo has been attributed by Powers⁷ to a secret society. In speaking of the subject of chastity among the Pomo, he describes a "devil-raising" ceremony conducted by what he terms a "secret society" which had several branches in the various Pomo villages. His description of this ceremony is given from information obtained by him from an old resident closely connected with the Indians of the region in early days, and, while his assumptions and deductions are in many respects incorrect, it is plainly a description of the ghost dance.

After speaking of the "secret society . . . whose simple purpose is to conjure up infernal terrors and render each other assistance in keeping their women in subjection," Powers says:⁸

Their meetings are held in an assembly-house erected especially for the purpose, constructed of peeled pine-poles. It is painted red, black, and white (wood color) on the inside in spiral stripes reaching from the apex to the ground. Outside it is thatched and covered with earth. When they are assembled in it there is a doorkeeper at the entrance who suffers no one to enter unless he is a regular member, pledged to secrecy. Even Mr. Potter, though a man held in high honor by them, was not allowed to enter, though they offered to initiate him, if he desired. They do not scruple to avow to Americans who are well acquainted with them, and in whose discretion they have confidence, that their object is simply to "raise the devil," as they express it, with whom they pretend to hold communication; and to carry on other demoniacal doings, accompanied by frightful whooping and yelling, in order to work on the imaginations of the erring squaws, no whit more guilty than themselves.

Once in seven years these secret woman-tamers hold a grand devil-dance (cha-du-el-keh), which is looked forward to by the women of the tribe with fear and trembling as the scourging visit of the dreadful Yu-ku-ku-la (the devil). As this society has its ramifications among the many Pomo tribes, this great dance is held one septennium in one valley, another in another, and so on through the circuit of the branch societies.

Every seven years, therefore, witnesses the construction of an immense assembly-house which is used for this special occasion only. I have seen the ruins of one which was reared in Potter Valley somewhere about the year 1860. The pit, or cellar, which made a part of it was circular, sixty-three feet in diameter and about six feet deep, and all the enormous mass of earth excavated from it was gouged up with small, fire-hardened sticks and carried away in baskets by both men and women, chiefly men. It was about eighteen feet high

⁷ Contr. N. A. Ethn., III, 158-160, 1877.

⁸ *Loc. cit.*

in the center, and the roof was supported on five posts, one a center pole and four others standing around it, equidistant from it and the perimeter of the pit. Timbers from six to nine inches in diameter were laid from the edge of the pit to the middle posts, and from these to the center pole. Over these were placed grass and brush, and the whole was heavily covered with earth. Allowing four square feet of space to each person, such a structure would contain upward of seven hundred people. In their palmy days hundreds and even thousands of Indians attended one of these grand dances.

When the dance is held, twenty or thirty men array themselves in harlequin rig and barbaric paint and put vessels of pitch on their heads; then they secretly go out into the surrounding mountains. These are to personify the devils. A herald goes up to the top of the assembly-house and makes a speech to the multitude. At a signal agreed upon in the evening the masqueraders come in from the mountains, with the vessels of pitch flaming on their heads, and with all the frightful accessories of noise, motion, and costume which the savage mind can devise in representation of demons. The terrified women and children flee for life, the men huddle them into a circle, and, on the principle of fighting the devil with fire, they swing blazing firebrands in the air, yell, whoop, and make frantic dashes at the marauding and bloodthirsty devils, so creating a terrific spectacle, and striking great fear into the hearts of the assembled hundreds of women, who are screaming and fainting and clinging to their valorous protectors. Finally the devils succeed in getting into the assembly-house, and the bravest of the men enter and hold a parley with them. As a conclusion of the whole farce, the men summon courage, the devils are expelled from the assembly-house, and with a prodigious row and racket of sham fighting are chased away into the mountains.

After all these terrible doings have exercised their due effect upon the wanton feminine mind, another stage of the proceedings is entered upon. A rattlesnake was captured some days beforehand, its fangs were plucked out, and it was handled, stroked, fed, and tamed, so that it could be displayed with safety. The venerable, white-haired peace-chief now takes his station before the multitude, within the great assembly-house, with the rattlesnake before him as the visible incarnation of the dreadful Yukukula. Slowly and sonorously he begins, speaking to them of morality and feminine obedience. Then warming with his subject, and brandishing the horrid reptile in his hand full in the faces and over the heads of his shuddering auditors, with solemn and awful voice he warns them to beware, and threatens them with the dire wrath of Yukukula if they do not live lives of chastity, industry, and obedience, until some of the terrified squaws shriek aloud and fall swooning upon the ground.

Referring again to the "devil dance," as practiced among the Gualala, Powers says:⁹

In the midst of the ordinary dances there comes rushing upon the scene an ugly apparition in the shape of a man, wearing a feather mantle on his back reaching from the armpits down to the mid-thighs, zebra-painted on his breast and legs with black stripes, bearskin shako on his head, and his arms stretched out at full length along a staff passing behind his neck. Accoutered in this harlequin rig, he dashes at the squaws, capering, dancing, whooping; and they and the children flee for life, keeping several hundred yards between him and themselves. If they are so unfortunate as to touch even his stick, all their children will perish out of hand.

⁹ *Op. cit.*, pp. 193-194.

THE GHOST CEREMONY PROPER

The dancers were of two classes, the ordinary ghost-dancers, or "devils," called *xahluigak* (E), and the "ash-devils," or fire-eaters, called *nō xahlūigak* (E). The former danced almost exclusively during the day, and the latter at night, though these regulations were not quite absolute. The ash-devils were always present at the ghost ceremony and during the ghost dance proper they served, in a way, as sergeants-at-arms and as clowns.

According to some informants, a new dance-house was especially built for each ghost ceremony. Other informants did not particularly mention this fact and it seems probable that in more recent times, after the ceremonial procedure of the Pomo had become somewhat lax, this rule was not observed, and the same dance-house may have been used for more than one ghost ceremony, and for other ceremonies as well.

In this ceremony the dancers impersonated the spirits of the dead, as is indicated by the speech of the chief devil-dancer made just before disrobing.¹⁰ The dance is said to have had its origin in mythical times when the birds and mammals had human attributes. The Pomo account is as follows:

Hawk, the captain of a village, was killed by Vulture. After being absent from the village for some time Hawk suddenly returned, came into the dance-house, and sat down in front of the center pole, at its foot. A ceremony was about to begin, and the people noticed nothing out of the ordinary about Hawk and were perfectly willing to allow him to participate in the dancing. Meadowlark, however, noticed an odor about Hawk which showed that he had just returned from the realm of the dead. With his characteristic garrulity, he commenced to chatter about the improprieties of mortals dancing with dead people. Hawk was a chief and one of an important family and felt especially offended at these reflections upon him and left at once, never again returning to the village. According to one version of the myth, Meadowlark had, in those days, a long tail like most other birds. His action upon this occasion, however, so enraged the other members of the village that some one struck at him with a fire poker which happened to be near at hand. Meadowlark was able to dodge the blow, but the poker clipped off a large part of his tail. He has, therefore, had only a stub of a tail since that day. The people then fell to discussing what could be done to atone in some way for this insult to Hawk. A number of men immediately went out into the woods and dressed themselves as the devil-dancers now do, returning to the village to personate the spirits of the departed. From this mythical source has descended the present-day ghost or devil ceremony.

The ceremony was directly under the supervision of the chief "gū'ksū doctor," and it was he who safeguarded the ghost-dance

¹⁰ See below, p. 414.

paraphernalia during the long interval between ceremonies. The ghost-dancers and the ash-devils were actually assisted in dressing by the *gū'ksū* doctors.

The dress of the ghost-dancer proper was quite elaborate. Each ghost-dancer repaired to some secluded place in the woods or brush, preferably back in the hills about the village, where he dressed. This going into seclusion to dress is called *tsūma' kabek* in the Eastern Pomo dialect. He first rubbed his body with chewed angelica root, at the same time making a prayer for long life, good health, and prosperity for himself, his fellow dancers, and the people of the village. He also made a prayer to a certain supernatural being¹¹ to lend him a striped skin. He next painted his body with white, red, and black paints. A man might paint his body entirely one color. The upper half of the body might be of one color, while the lower half was of another. The same difference in color might obtain between the right and the left sides, and bands and stripes might also be freely used.

Before finally finishing the painting of the face and arms, however, the remainder of the attire was put on. This included, for the head, (1) a head-net with which to confine the hair; (2) a down-filled head-net; (3) a feather tuft on top of the head; (4) a yellow-hammer quill forehead-band fastened at the top of the forehead, passing back through the parted feather-tuft and hanging down the back; and (5) a fillet of pepperwood leaves. The remainder of the costume consisted of a short girdle of pepperwood branches worn about the waist and, if desired, a similar adornment about the neck.

The ash-devils, or fire-eaters, dressed more simply. According to some informants, they were entirely nude except for a coat of blue paint. According to others, their attire was somewhat more elaborate. The face was painted red, black, or white, two colors never being used together. The legs were painted white, then scratched with the fingernails so as to remove some of the paint and produce longitudinal stripes. The hair was bound up with the usual head-net into which a single black feather was inserted,¹² or a feather tuft was attached to it. As a screen or mask before the face, the dancer also wore a fringe of green twigs further to disguise his identity. Otherwise he was completely naked.

¹¹ The exact identity of this supernatural being could not be determined from informants.

¹² According to one informant, two feathers instead of one were worn by these dancers. These were placed so that they projected laterally from the forehead.

When everything was in readiness in the village, the head captain sent out a messenger to notify the dancers. When the latter were ready to enter the village, a small fire was built in the hills to give notice of the fact. They made their first entry just about daybreak on the first day. A crier, who was always one of the captains or a fire-tender detailed to this duty, took his position on the roof of the dance-house just below the smoke-hole, where he gave the ghost call "yē . . ." four times. At once answering calls were heard from the ghost-dancers in their several locations, for they had scattered to a number of different places, each man by himself, or in groups of not more than two or three individuals. The ghost response was a loud "waū wa'i," repeated four times. If the ghost-dancers were sufficiently close together, this was given by their leader only. The crier continued his calling until one or more of the dancers appeared on the outskirts of the village. They came running in,¹³ each carrying in his hands two bunches of grass or twigs a foot or so in length,¹⁴ behind which he at times pretended to hide. Each suddenly stopped as he came in sight of the dance-house and stood for a moment with outstretched arms. Thereupon the crier shouted, "ō, ō, ō, ō," after which he delivered an invocation to the ghost-dancers, asking them to come running into the village bringing health and happiness to the people. This invocation was as follows:

napō'	pūtsa'l	giwa'lē
village	healthy	run to
ma'yawala	kale pūtsa'l	giwa'lē
girls	healthy	run to
xā'xalik	pūtsa'l	giwa'lē
chiefs	healthy	run to
da'xalik	pūtsa'l	giwa'lē
chieftainesses	healthy	run to
kawi'k	pūtsa'l	giwa'lē
children	healthy	run to

Then, according to one informant, all the people who were assembled in the dance-house shouted, while the drummer beat rapidly for a minute or two. The head singers took their cocoon rattles and

¹³ One informant stated that each dancer was ablaze on his back, head, and arms, and that smoke issued from his mouth. This accords with Power's statements, quoted above.

¹⁴ According to one informant, some of these dancers carried stones, long sticks, or even snakes with which to frighten the spectators. Note also Power's reference to the use of the rattlesnake in the ghost dance, quoted above.

intoned a song as they marched outside to meet the dancers. After singing outside for a short time, they re-entered the dance-house.

The dancers then came running in, making a loud noise produced by a voiced expulsion of breath through the relaxed but closed lips, "bū . . ." and ran to a point about one hundred yards directly in front of the dance-house door (see fig. 1). While the dancers were running into the village, the singers sang the following song:

yōhiya', yōhiya', yōhiya',
yōhiya', yōhiya', yōhiya',
yōhikōli kōlē, yōhikōli kōlē.
(Repeat indefinitely.)

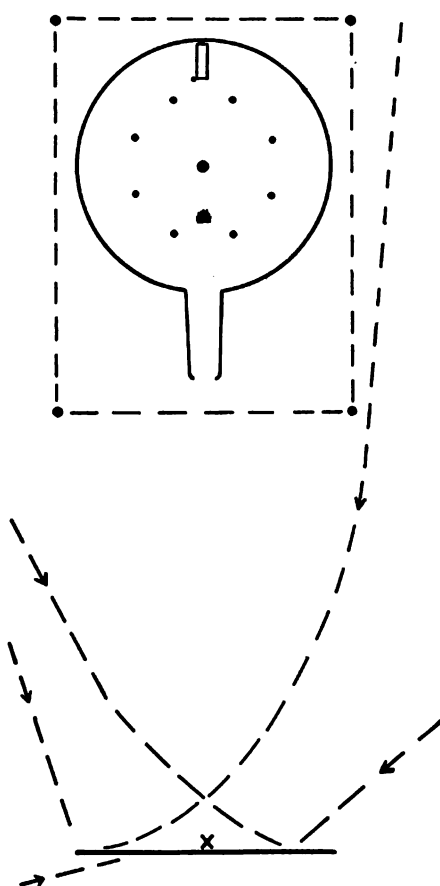


Fig. 1

Fig. 1—Paths of the ghost-dancers as they enter the village, and their ceremonial course before the dance-house.

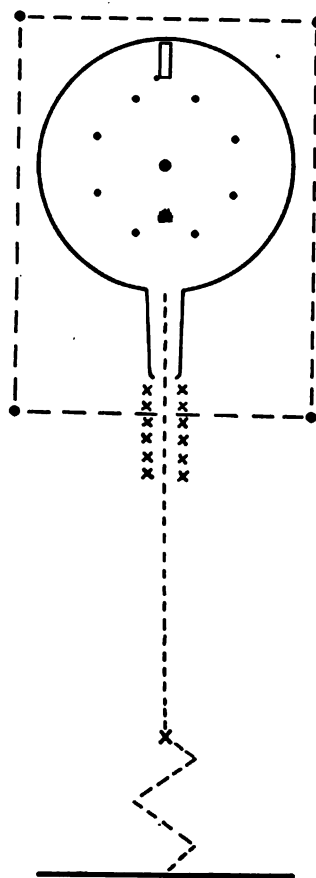


Fig. 2

Fig. 2—Positions taken and course traveled by ghost-dancers in approaching dance-house.

Meantime the crier and the dancers continued their respective cries. The head ghost-dancer always dressed at a place north (i.e., in the rear) of the dance-house, so that in entering the village he ran past the dance-house to take up his position. Here he bowed very low, and quickly dropped his arms with the bunches of grass above mentioned, at the same time crying "wē . . ." He then trotted perhaps twenty feet in one direction, where he repeated this motion and cry, and then to a point an equal distance in the opposite direction from his central position, repeating the same motion and cry there. This he did four times, finally stopping in the middle of the forty-foot line thus blocked out, and directly in front of the dance-house door. The next dancer to enter the village might come from any direction. He ran toward the head dancer and crossed, if possible, in front of him, though if necessary he passed behind him. In this case the head dancer turned around so as to face the runner. The newcomer began to pass back and forth along the line, making the motions and cries as above described. He then took up his position at one side or the other of the chief dancer. These dancers were at liberty to laugh, talk, and play at will. Frequently they performed various comical antics, such as pretending to be stung by wasps, and doctoring one another.

The crier continued his calls until finally the leader of the dancers walked along a zigzag path to a position about one-quarter of the distance between the line of dancers and the dance-house (see fig. 2). Here he halted and cried "wuī' . . ." after which the crier at the dance-house called all the initiated men of the village to assemble.

There was a fixed restriction against the presence of the uninitiated in this assembly. One informant maintained that the ceremony, as held in his locality (the coast of the Central Pomo area), required that four posts be set up, each at a distance of several yards from the dance-house, as is shown in figures 1 and 2, the imaginary lines from post to post forming an inclosure for the dance-house and its immediate vicinity, within which none but the initiated dared venture.

The singers and others officially concerned with the dance came from within the dance-house and formed two lines, one on each side of the outer door of the tunnel, as indicated by the small crosses in figure 2. As the crier gave his call, the initiates answered with a cry of "ye . . ." after which they formed these two lines between which the ghost-dancers must pass to enter the dance-house.

At the outer ends of these lines were two masters of ceremonies who directed the ceremony from this point on to its close. They first

chased each of the dancers¹⁵ as he came to enter the house, returning each time to the heads of the two lines, there to await the arrival of the next dancer. These masters of ceremonies were called *xahlū'igak kăldaiyaū* (E) or *masa'n kăldaiyaū* (E), and were entirely nude except for a head-net and a feather tuft on their heads.

The chief ghost-dancer entered the house backwards and started towards the drum, passing, however, on the west or wrong side of the fire. Before he had gone very far, he stopped and groped around

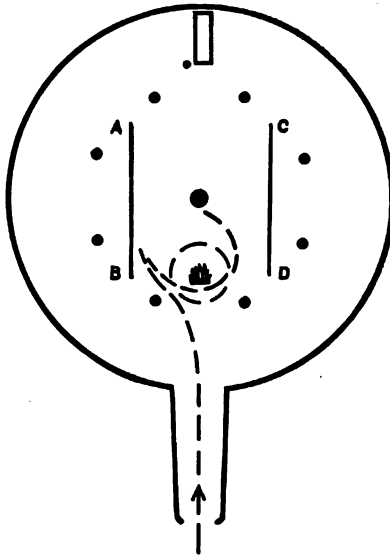


Fig. 3—Course of each ghost-dancer entering dance-house.

with one foot, as if to find his way, and finally inquired which way he should go. Ghost-dancers used the same words in speaking that ordinary people did, except that they inverted their statements and reversed the meanings of words. In this case the spectators replied, "You must go on the west side,"¹⁶ meaning, of course, that the dancer was expected actually to go down the east side of the dance-house. He then reversed his direction, as is shown in figure 3, and circled four times about the fire, finally passing to a position in front of the

¹⁵ Two or three dancers sometimes came together.

¹⁶ *Mibax bōl malidai* (E).

center pole. The spectators meanwhile constantly called out to each dancer to pass down the "east" side of the house.

When the dancer entered through the tunnel, the spectators all cried, "ye'-ye." He at first advanced very slowly backwards until he reached the point at which he inquired his way. As soon as he received this direction he sprang up and ran the prescribed four times around the fire and finally reached the foot of the center pole, making meanwhile the same "bū . . ." noise which he had made upon entering the village. He here awaited the arrival of the other dancers, who went through the same succession of movements.

The chief ghost-dancer, upon arriving in front of the center pole, said, "mamūle'" (E), to which the spectators replied, "hehē' . . ." Then he made a short speech in a more or less archaic language. Its purport was: "I do not come to do any one harm, but rather to take all sickness away and to make everybody strong."

habadūtkiya	gahnū	kūdī'	pūtsa'lwai	gakba	ga'kalik	gaba	da'kalik
		good			chiefs		chieftainesses
gaba,	ka'lnīne	gaba	bēkal	sīma	bexba	gahnū	cama ihiwala
rich	people						

He next marked off, according to one informant, two or three places on the east side of the floor, saying that he and his followers would dance there. This was contrary to the usual procedure in dances, for the regular dancing area in front of the center pole was always used. As a matter of fact, the ghost dance itself was actually performed in the usual area also, but this indicating of another area, and this announcement, are only other evidences that the spirits must always do things differently from mortals. In fact, the whole dress and conduct of these dancers, their reversal of terms of direction, their groping their way, etc., typify the conduct of the spirits of the departed, who find everything strange when they return to the realm of mortals.

Throughout the entire ceremony, and especially during the time that the ghost-dancers were entering, the spectators were obliged to use great care not to obstruct their passage in any way, or otherwise to interfere with them, else they were likely to be very roughly handled by the dancers.

As the last ghost-dancer entered the tunnel leading into the dance-house, the men in the two lines outside cried "yūhē'" four times, after which they entered and took up their positions.

The above described entry of the dancers was according to the regular procedure. However, these dancers, especially the ash-devils, were privileged to perform many comical antics, and it not infrequently happened that one or more of them would run up on to the roof of the dance-house and dive through the smoke-hole. In fact, this was one of the usual modes of deception practiced in this ceremony. A special net, *cko'ltabiū käle hai* (N), was stretched about two feet below the smoke-hole to catch the dancer. A special post was set in the ground beside this net for the dancer to slide down. He would then go through the usual series of movements, running four times around the fire. After this he usually took up a position at one of the posts near the door, there to levy tribute upon the spectators. This tribute might be in the form of firewood, tobacco, or other commodities.

The music for this ceremony was provided by a drummer, two chief singers, and a number of burden-singers. The ghost-dancers sometimes sang a kind of burden of their own while dancing. This was simply "hī, hī, hī, hī," etc., in a very high key. The chief singers were provided with cocoon rattles. These and the drum were the only instruments used. The dancers carried no whistles, although these were ordinarily used by performers in other dances. The burden-singers also used no split-stick rattles, but clapped their hands instead in time to their singing.

After the performers had in this way entered the dance-house, the chief ghost-dancer called to the singers to start. The drummer then jumped upon the drum, crying "hūtsaiya'hīi" (E).¹⁷ With the first cry of the drummer, the chief singers sounded their rattles. After an interval of perhaps a minute, the drummer repeated his jump and call. The song started and the dance began.

The song as given by one of the informants is as follows:

yōhiya' yōhiya', yōhiya' yōhiya',
 kūlī kūlē kūlē . . .
 kūlī kūlē kūlē . . .
 hūtsaiya' hūtsaiya'
 hīi . . .
 (Repeat indefinitely.)

The two masters of ceremonies took up their respective positions at A and C (fig. 3) and danced back and forth along the lines AB

¹⁷ This expression was said by informants to be untranslatable, simply an expression used to start the song. This jumping upon the drum and calling by the drummer were called *tehe'sba* (E).

and CD. In starting the movement, they stood with hands outstretched and bent their bodies sidewise toward the drum as they shouted "hūtsaiya'hū." They then ran rapidly sidewise to the opposite ends of their respective courses, where they repeated the same bending, this time in the opposite direction. When they had gone back and forth over these courses and had returned to their original positions for the fourth time, they again shouted as at first. This particular set of the dance was repeated four times, thus completing this part. After any such part had ended, it occasionally happened that one dancer would continue his steps just as though the music were in full swing. Ultimately one of his fellow-dancers would strike him lightly to call his attention to the fact that the dance was over, and he also would stop.

Four such parts completed the first division of the dance. After this the masters of ceremonies advanced toward the ghost-dancers, motioning them back toward the center pole with the palms of their hands turned outward and held in front of them, while they said "hahyū', hahyū'" (repeated indefinitely).

The singers, masters of ceremonies, and the drummer then seated themselves or stood a short distance away from the drum, and the ghost-dancers proceeded with their ceremonial disrobing.

The chief ghost-dancer proceeded from the foot of the center pole by a path, as is indicated in figure 4, leading around the center pole and fire and back to the east side of the drum, which the ghost-dancers term cūna' bilat (E), literally "canoe worn out." Upon his arrival at the drum the chief ghost-dancer made a speech in which he said that he and his fellows "had come from the hollow stems of the grass, crawling like snakes," to visit the people.

katsa' mūtō'lai	waha badūt'kiū (E)
grass hollow	travel like a snake

He told them that he had come for their good and with no evil motives, that he had come to bring them good health and happiness, not sickness and misfortune. With a cry of "mē . . ." he then jumped across the drum to its west side. The spectators cried "mī'bax bō'wōwa" (E), literally "go on your west side," indicating the west side of the drum, according to the ghost-dancers' inverted method of speech. In compliance with this instruction, the chief ghost-dancer jumped across the drum, after which he sometimes felt around with his foot as if in search of something. Thus he jumped back and

forth four times across the drum. He had really been in search of the drum all the time and had feigned his inability to find it. He finally, however, jumped upon it and stamped rapidly for a minute or so to indicate his satisfaction. Throughout this whole performance the singers and others near the drum continually cried "hō . . . hō . . ." etc. While standing on the drum, the chief ghost-dancer faced toward the wall, thus bringing his back toward the fire. Frequently he made some comic observation to those near by,¹⁸ and from time to time turned his head toward the right so as almost to face the fire, the while he made the peculiar noise, "bū . . ." characteristic

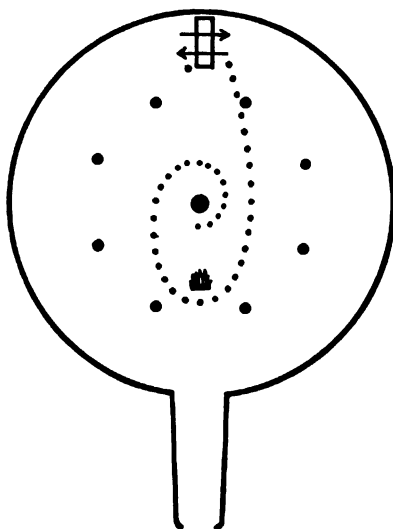


Fig. 4—Ghost-dancer's course in disrobing.

of this dance. Meanwhile he turned his head slowly, first to the right and then to the left, until he had done this four times in each direction.

He next took the brush or grass, which he had throughout the ceremony been carrying in his hands, first in his left hand and passed it downward over the right side of his body until he had passed it down and up four times. He then took it in his right hand and passed it in the same manner over his left side. He next took part of it again in each hand and passed both hands back and forth side-wise over his legs while standing in a bent posture, until he had done this also four times. The brush or grass was then placed upon the ground.

¹⁸ Compare below, p. 419.

He next took off the girdle of twigs about his waist and dropped it to the ground, usually without ceremony, though if he chose he might pass this through the same series of motions as the twigs carried in his hand. He next took off his entire head-gear at once. This he held in his left hand and passed from his right shoulder up over his head four times, repeating the same motions with the right hand on the left side. He then placed this with the other paraphernalia on the ground.

He next left the drum and went directly back to the foot of the center pole, where he rejoined the rest of the ghost-dancers. The remaining dancers went, one by one, or in small groups, and performed exactly the same ceremony as that just described. When all had disrobed, each took his costume and retired to the woods or brush, redressed himself, endeavoring to change his painting to one as different as possible from that which he wore before. Later the same performance was repeated: the calling by the crier, entry of the dancers, series of dances, and ceremonial disrobing.

On the first day this entire series of dances was repeated four times in all—at about 5 a.m., 10 a.m., 2 p.m., and 5 p.m., respectively. After the ceremonial disrobing at the end of the fourth series, the ghost-dancers left their suits in the dance-house and repaired to the river or lake to swim, after which they returned to the dance-house. During the other three days of the ceremony they might appear any desired number of times during the day.

The dancers were forbidden to eat or drink on any particular day as long as the dance continued, but as soon as they had gone down to swim this restriction was removed.

As a rule, fire-eating and fire-handling were only incidental to the ghost dance proper. However, if occasion arose, the ghost-dancers themselves might handle fire, though they could not eat it. This privilege was especially reserved to the ash-devils, *nō' xahlūīgak* (E). In case something was done to offend the ghost-dancers, such as an inadequate provision of wood or some inattention on the part of the officials, they might attempt to show their displeasure by throwing fire about the dance-house. It then became the duty of the two fire-tenders to hold sticks of wood across the fire. This operated as a taboo to the ghost-dancers, who were prevented from touching the fire. If there were any of the ash-devils present, even though not regularly participating in this particular ceremony, they at once brought their special bird-shaped staffs, which served as their badges of authority,¹⁰

¹⁰ See below, p. 418.

and gave them absolute control over the entire assemblage, including even the head captain. This caused the fire-tenders to remove their restriction, and the ghost-dancers were then privileged to do as they wished as long as they were under the patronage of the ash-devils.

While serving, during the regular ghost dance, as messengers, sergeants-at-arms, and collectors of fines, the ash-devils were called *katsa'tala* (E), and were the special clowns who performed all manner of antics in their endeavors to provoke an outward expression of mirth from some unfortunate spectator. Should he so forget himself as to laugh or even smile at the antics, one of these *katsa'tala* ran at him with his wand and levied tribute in the form of a payment of beads or some other commodity, or imposed a penalty requiring the offender to bring wood or water for the dancers. Furthermore, if some one of the dancers should see a spectator in possession of something desirable, he sent one of these *katsa'tala* with his wand to this spectator to demand the desired article. The spectator must then bring it to the foot of the center pole and deposit it for the dancers.

In order to provoke the spectators to mirth, these *katsa'tala* did many odd things and made themselves as grotesque as possible. For instance, one of them would prop his eyelids open with small wooden pegs (an action called *ũ'i batak* (E)), or he would hold his mouth open and stretch it out of shape (an action called *katsi'da batak* (E)), or he would fill his cheeks very full and puff them out with grass (called *kawe'ts kale* (E)).

These ash-devils never actually danced in the ghost dance proper, but accompanied the regular ghost-dancers when they appeared. The intervals between dances were filled and greatly enlivened by their antics, and it was during these intervals that they made good their name by rolling in the ashes of the fire, and by sometimes throwing live coals about, and "eating" them.

From time to time during the "rests," or ceremonial pauses, one of these *katsa'tala* would seize a cocoon rattle, run four times about the fire and center pole, and throw the rattle at the chief singer, calling upon him for a song. This must be at once forthcoming, and the ghost dance itself was then resumed. If some one in the audience wished to have the singing and dancing resumed, he threw a cocoon rattle at one of the fire-tenders, who passed it to one of the *katsa'tala*, who then ran about the fire and presented it to the chief singer as just described.

Songs were sometimes sung independently and unaccompanied by

dancing. This was especially the case in what may be termed singing contests. Upon receiving the rattle, a singer was obliged at once to sing some song. He then passed the rattle to another singer, who did likewise. Thus each of the renowned singers was given an opportunity to prove his merit. Each man's song was accompanied by a parade of the performers, which carried the party, including the singer, four times around the dancing area.

FIRE-EATING

Fire-eating was restricted, as above stated, to the ash-devils, and, while sometimes practiced during intermissions in the regular ghost dance, it was usually held as a separate ceremony in the evening and was preceded by a short dance.

The dress of the ash-devils consisted of a coat of paint and a very simple headdress.²⁰ In addition, however, they carried special ceremonial staffs called *tōa bila't* (E), *kasa'ūsāua* (E), and *kasa'lsala* (E). To one end of this ceremonial staff was fixed the head of a crane. Grass was used to stuff the neck part, bits of abalone (*Haliotis*) shell made the eyes, and bluejay feathers were made into a topknot. It was permissible to use wands of slightly different forms, but all were crooked in some way, and the crane-headed staff was the recognized variety.

When this special ceremony commenced, the ash-devils became supreme and took precedence over everybody. A guard was posted at the foot of the side post to the east of the door, and no one was permitted to leave the dance-house after the ceremony had begun except upon payment of a certain sum of what was termed upon this occasion "bead money" (*cata'ne* (E)). As a matter of fact, two or three stems of rush, from four to six feet in length, were bound together and were given to the guard as payment. He took this "money" and hung it on the wall near the drum, after having danced a few quick steps upon the drum with it in his hands. These rushes were legal tender during this ceremony; and if the dancers asked a favor of any one else in the dance-house they paid him for the service in this same legal tender. Their authority was especially shown by their use of the crane-head wands, which no one else was permitted to touch. They could be handled only after a long fast involving complete abstinence from water and from meat or grease in any form.

²⁰ See below, p. 420.

As soon as the ash-devils entered the dance-house absolute silence fell upon all. Except the ash-devils, no one, not excepting the head captain, was permitted to speak during the ceremony. The rule was that the ash-devils themselves must consult one another in low tones.

Immediately upon entering the dance-house the main group of ash-devils took up a position at the foot of the center pole and, in case some one of the spectators did not almost immediately start a song for their dance, they might jump into the fire and begin to throw brands and live coals about among the spectators. This drastic action quickly called forth a protest, and some one volunteered to sing.

The actual dancing lasted for perhaps half an hour, after which the ash-devils sat down and began to "eat fire," jump into it, and perform other miraculous feats with it. They, to all appearances, actually picked up live coals, which they called *bū* (E), and devoured them, preferring the coals of manzanita wood, as these were the strongest and hottest. This term *bū* is translated by the Pomo as "potatoes," a term applied to the many species of bulbs and corms formerly an important part of their food supply. The word for coals is *masi'k* (E).

During the progress of the dancing a fire-tender had been preparing the fire for the special benefit of the ash-devils, and had selected a considerable quantity of live coals, which he had piled at one side of the main fire. Suddenly one of the fire-dancers put his hand into these coals and scattered them out over the dancing floor. Then he pretended to be burned and danced about as if in pain. Finally, however, he struck the center pole with his hand and evinced great satisfaction, for to him the center pole was as cold water. During this fire-eating ceremony many other feats were performed, such as catching with the mouth a live coal which had been thrown into the air, then running back to the drum and dancing upon it. The dancer usually turned toward the audience, opened his mouth, and exhaled his breath in such a way as to cause the coal to glow between his teeth or farther back in his mouth. Such comical antics would in ordinary life provoke an outburst of merriment, but the rules of the ceremony absolutely forbade a sound of any kind, mirthful or otherwise, from the audience, and if the rule were violated a fine was exacted.

During this ceremony, and apparently as an initiation of novices, little boys were thrown by the ash-devils back and forth a number of times through the blaze of a large fire.

Finally, after about half an hour of this eating and handling of

fire, the ash-devils formed at the drum and danced over a course such as that shown in figure 5. This was repeated four times, and as each dancer stepped upon the drum he danced a few short, quick steps, as did the regular drummer in producing music for an ordinary dance. Upon completing this cycle of four, the dancers reversed their direction and traveled over the same course four times. They next passed over the course represented in figure 6, stopping at the four points marked I, where each dancer waved his wand, which he held with both hands, above and in front of his head in such a manner as to describe with it a semicircle, while the spectators cried "hee' . . ."

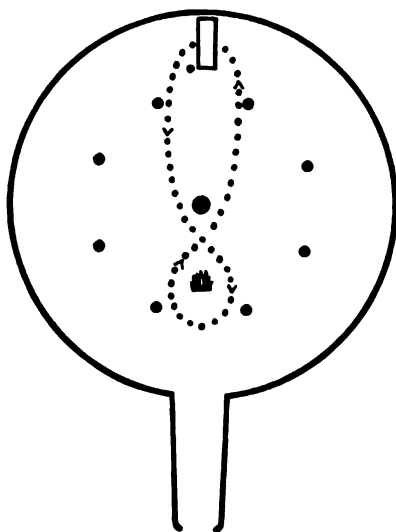


Fig. 5

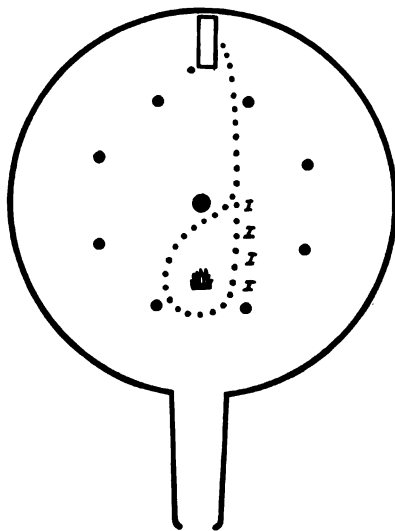


Fig. 6

Fig. 5—Course in first part of final fire dance.

Fig. 6—Course in second part of final fire dance.

The dancers then returned to the drum, removed their head-dresses and nets, and danced back and forth four times along the line indicated in figure 7. At the end of each journey along this line, the dancers blew their breath forcibly through their lips and waved their hands from their mouths. At the end of this cycle they sat down and became ordinary persons²¹ once more. The spectators were then permitted

²¹ According to the above information, which was obtained from an Eastern Pomo informant, the fire-dancers evidently did not make an attempt to hide their identity. However, a Central Pomo informant was very specific in his statements that the dancers of his locality were more particular in this respect,

to do as they wished. They could resume their normal ways, including smoking, which had been prohibited because the fire and everything pertaining to it belonged exclusively to the fire-dancers during this ceremony.

THE PURIFICATION RITE

During the first three days and nights of the ghost ceremony, either the ghost dance itself or some other dance associated with it might be held. On the fourth night it was necessary that the entire night be spent in dancing, and near dawn there occurred a purification rite

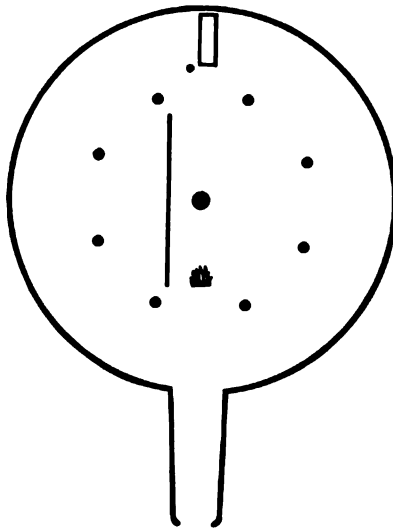


Fig. 7—Course in third part of final fire dance.

accompanied by special songs. Every ceremonial object about the dance-house, whether it had been used during the preceding days or not, had to undergo this purification, and in case the owner of such a ceremonial object was not present, some near relative performed the ceremony with it.

Just before sunrise each dancer, holding up his personal ceremonial paraphernalia in his right hand, danced back and forth in time to the songs. He danced four times looking toward each of the six cardinal directions in the following order: east, north, west, south, up, down.

and instead of remaining in the dance-house after the ceremony they ran out and returned to their respective places of seclusion, there to dress in daily attire and return to the village.

All the ceremonial objects were then hung up in the dance-house and later stored away secretly by the chief Gū'ksū doctor.

The ceremony ended during the following forenoon with a grand feast, which differed materially from other feasts held at times during the ceremony, in that each separate class of individuals dined by itself in the order of rank—captains, fire-tenders, singers, drummers, masters of ceremonies, ash-devils, ghost-dancers, and spectators. The food served to each class was, however, of the same kind and quality.

Certain restrictions were imposed upon the dancers after the ceremony was over. The regular ghost-dancers were not allowed to eat meat for eight days. Those who wore the chaplet of twigs upon the head were obliged to abstain from meat for four days. The Gū'ksū doctor who assisted a dancer in dressing might ask him for some article, such as a powerful poison. This had to be given the Gū'ksū and, in that case, the dancer was forced to abstain from meat for eight days. A dancer who wore certain kinds of feather ornaments abstained from meat for a month. The chief Gū'ksū doctor, who knew all about the ghost dance and who was called yō'mta bate (E), was compelled to abstain from meat for several months. It was his duty to care for the ceremonial paraphernalia between dances. This had to be carefully hidden away in some lonely spot where no one could find it except this chief Gū'ksū doctor and his two or three assistants.

Whenever any one of these individuals ate meat or fish for the first time after this period of restriction had expired he was enjoined to say a short prayer over it.

SUMMARY OF THE PRINCIPAL FEATURES OF THE GHOST CEREMONY

The following are the most characteristic features of the ghost or devil ceremony:

1. The ceremony is supposed to have had its origin in mythical times and to have been instituted as an atonement for an offense against the dead.
2. It lasted four days, ending with an all-night dance, and, on the morning of the fifth day, a purification rite followed by a feast in which each class of individuals dined by itself.
3. The participants were several ghost- or devil-dancers personating the spirits of the departed and accompanied frequently, though not always, by one or more ash-devils or ash-ghosts, who filled the double office of clown and sergeant-at-arms, and who usually performed their special fire dance and fire-eating ceremony.

4. The officials particularly concerned with the ceremony were two head singers, an indefinite number of burden-singers, a drummer, two fire-tenders, and two masters of ceremonies. The village captains retained their full authority in this ceremony except when the ash-devils were performing.

5. The audience consisted of initiated men only, and silence was the rule. Any exhibition of mirth was absolutely prohibited under penalty.

6. The attire of the ghost-dancer consisted of several pieces of headgear, supplemented in some cases by a chaplet of leaves, a girdle, and sometimes a neck-ring of leaves. The body was otherwise nude except for very elaborate painting in black, white, and red. The dancers dressed secretly in the woods and came to the village carrying bunches of grass or twigs in their hands, behind which they at times pretended to hide.

7. The ash-devils wore only a simple head-dress and a coat of paint.

8. The special crane-head shaped wand of the ash-devil gave him absolute authority.

9. The dancers entered the village at the call of a crier stationed on top of the dance-house, performed an elaborate ceremony in front of the dance-house, and finally entered it backwards, groping their way, using an inverted style of speech, and in every other manner showing that the spirits of the departed were unaccustomed to the ways of mortals.

10. The dancing was elaborate and was characterized by the occurrence of movements in cycles of four, followed by an elaborate ceremonial disrobing at the drum, and then by swimming.

11. During the fire dance the ash-devils initiated novices.

12. The dancers were subject to certain restrictions for varying periods of time following the ceremony.

THE GUKSU CEREMONY

Gū'ksū or kū'ksū, as he is called in the different Pomo dialects, was a supernatural being living at the end of the world toward the south, one of six supernatural beings living at the ends of the world in the six cardinal directions. The term is also applied to a large mosquito-like insect, called locally "gallinipper."

Toward the east lived Ca'lnis, the only one of these deities who was associated especially with Gū'ksū in the ceremonies of the Pomo.

Toward the north lived Sū'ūpadax (whirlwind).

Toward the west lived Xa'-matū'tsī (water-occupation). The connection is here very readily seen when we know that the territory of the Pomo reached to the Pacific Ocean, and that this great body of water formed an important element in certain phases of their mythology. It was only toward the west that the world was supposed by the Pomo to be bounded by water.

Above lived Kalī'-matūtsī (sky-occupation).

Below lived Ka'i-matū'tsī (earth-occupation).

Some of these terms really referred to groups of several deities each. The deities of all six quarters were particularly concerned with medicine practices. Healing was, however, especially the province of the Gū'ksūs, and the Pomo medicine-men, or "doctors," made their prayers particularly to them, although all the remaining deities of the cardinal points were invoked.

Nothing very definite seems to be known concerning the places of abode or manners of living of most of these deities. Each was supposed to dwell, at his own "end of the world," in a sweat-house or dance-house of one kind or another. Each was also supposed to be distinctly malevolent at times and to be a man-killer unless properly placated. Under the proper circumstances they were regarded as benevolent, as was indicated by the prayers of the medicine-men invoking the aid of these deities in curing the sick.

Concerning the personal appearance of Gū'ksū and Ca'lnis, more was known than of the others. Gū'ksū himself was said to be of about normal human size and his most characteristic feature was a very long, large, sharp, red nose. He was usually very good natured. Ca'lnis, on the other hand, while resembling Gū'ksū in most respects except that of the abnormal nose, was at all times a testy individual, and in the Gū'ksū ceremony his impersonator pursued people and tripped them up.

Gū'ksū was impersonated by a number of dancers, while only a single one represented Ca'lnis. Those personating Gū'ksū were dressed as follows: They painted their entire bodies black, according to some informants; according to others, with horizontal red, white, and black stripes. The feet were painted black and the under side of the chin and the sides of the face were painted white. On their heads they wore either a "big-head" headdress (a very bulky type of feather

bonnet) or a large feather tuft on top of the head, and a yellow-hammer feather forehead-band. The large nose of Gū'ksū was represented by one made of feathers and of such a size as completely to cover the nose and mouth of the dancer. When painted red, this was said to represent very well this characteristic of the deity as he existed in the imagination of the Indians. The connection with the proboscis of the gallinipper is especially apt. Each Gū'ksū-dancer carried a cakō'ik (E), or staff, about two inches in diameter and from six to eight feet in length, on the top of which was a feather tuft. The Gū'ksū-dancer, being supposedly a supernatural being, never spoke. The only sound made by him throughout this ceremony was produced by his whistle.

The Ca'lnis-dancer was painted entirely black and carried a black staff very much like that of the Gū'ksū, except that it was somewhat shorter and bore no feathers. On his head he wore an ordinary feather cape so drawn together that it formed an immense feather topknot which normally fell in all directions over his head. This was held in place by means of skewers passing through a headnet. Another point in which these two dancers differed was that while the Gū'ksū-dancer was provided with a double bone whistle the Ca'lnis-dancer had none.

The Gū'ksū ceremony itself, called gū'ksū xaikilga (E), gaxa'gaxaū xaixilga (E), kūksū haiteilaū (C), and djaka'djakaū (N), lasted for six days, during the first and the last two of which there was celebrated the special ceremony called gaxa'gaxa (E), in which the children of the village were scarified.

THE SCARIFYING CEREMONY

Two or three days before the time appointed for the scarifying ceremony the men of the village went into the woods and cut a pole, perhaps from thirty to forty feet in length, which they trimmed and peeled preparatory to its erection. A hole a foot or two deep and large enough to receive the pole was dug directly in front of, and a short distance from, the dance-house.

On the morning of the first ceremonial day a considerable number of men went out from the village dressed in a special ceremonial attire. This consisted of a body-painting either of black stripes or spots (no particular number being prescribed), and of a head decoration composed of a headnet, a down headnet, two trembler plumes, a yellow-hammer feather forehead-band, and a small feather tuft.

They brought in the pole to the area directly in front of the dance-house, and here the following ceremony was performed: To the upper end of the pole a streamer was attached. The fastest runner among the participants took the end of this streamer, and the other men, arranged usually in the order of their ability as runners, grasped the pole at different points down to its butt. Behind this line certain women who participated formed a second line. The pole was then carried, at the top speed of the runners, four times around in a counter-clockwise direction, the pivotal point being the hole in which the pole was to rest, and over which its base was held. As they ran the runners swayed the pole up and down, and the women threw upon the men handfuls of a small, parched, black seed called *gēhe'* (E).

Upon the completion of the fourth round some one of the runners shouted loudly "ha . . . ū . . ." and at this signal all lifted the pole vertically into place in the hole. The call was repeated as the pole was about half way up. When in place, the pole was fixed by tramping earth and stones about it.

Within a few minutes after the erection of the pole the *Gū'ksū*-dancers appeared and stopped about two or three hundred yards away from the dance-house. Some of the men had been attempting to climb the pole, both men and women meanwhile throwing at them balls, *gala'l* (E), of uncooked meal made of a certain grass seed.

As the *Gū'ksū*-dancers appeared in the distance the climbing ceased, and the children who were to be initiated were collected about the base of the pole. Boys who were to be thus initiated were called *yō'mta* (E), while girls were called *masa'nta* (E). They ranged in age from perhaps five to ten years. The dancers proceeded to the foot of the pole, took the children in hand, and performed the following ceremony, the object of which was to secure for the children good health and to make them grow rapidly. The children were first made to lie down upon the ground and were covered with blankets. Then, under the supervision of the dancers, each child had two cuts made with a broken shell across the small of its back and about an inch apart. The cutting was done by the *gaxa'xale* (E), an old man selected for the purpose by the people of the village on account of his long life, good health, and particularly his good heartedness. This was one of the most important phases of the initiation, and upon it depended the effect upon the life of the child. The children were in each case covered completely with the blanket and were not permitted, under any consideration, to look up during this part of the

ceremony. They might make any outcry they pleased, but if they attempted to look up from the ground they were threatened and even beaten with the staffs of the dancers. The cutting was done quite deeply, so that blood was always drawn. The children were also prohibited from looking up into a tree from under its branches until after these scarifications had completely healed, else the tree would bear no fruit.

The entire assemblage next entered the dance-house, the dancers going directly to their positions in the rear without the preliminary ceremony of entry which was required in most other ceremonies. The children were made to lie on the floor and were again covered with their blankets. The dancers then performed for their benefit, making a great deal of fun both of the children and of the scarification ceremony. They danced thus for a short time, then went on the west side of the fire, where they turned their heads slowly to the left four times, after which the people cried "ya . . ." The dancers then ran out and into the brush, where they took off and left their dancing paraphernalia. This ceremonial leaving of the dance-house was supposed to remove all illness from the village, the dancers taking it with them as they went out. The spirits which they represented supposedly returned at that time to their supernatural home at the south end of the world.

Another feature of the initiation in the Gū'ksū ceremony is described by a Central Pomo informant, who says that young men were initiated by being ceremonially shot with the bow and arrow.

STEPHEN POWERS ON THE GUKSU CEREMONY

Powers describes what he terms a "spear dance" among the Gallinero (which evidently refers to this same ceremony), as follows:²²

First they all unite, men and squaws together, in a pleasant dance, accompanied by a chant, while a chorister keeps time by beating on his hand with a split stick. In addition to their finest deerskin chemises and strings of beads, the squaws wear large puffs of yellowhammers' down over their eyes. The men have mantles of buzzards', hawks', or eagles' tail-feathers, reaching from the armpits down to the thighs, and circular headdresses of the same material, besides their usual breech-clouts of rawhide, and are painted in front with terrific splendor. They dance in two circles, the squaws in the outside one; the men leaping up and down as usual, and the squaws simply swaying their bodies and waving their handkerchiefs in a lackadaisical manner. Occasionally an Indian will shoot away through the interior of the circle and caper like a

²² U. S. Dept. of Interior, Contr. N. A. Ethn., III, 179-180, 1877.

harlequin for a considerable space of time, but he always returns to his place in front of his partner.

After this is over, the coward or clown is provided with a long, sharp stick, and he and his prompter take their places in the ring ready for performances. A woman as nearly nude as barbaric modesty will permit is placed in the center, squatting on the ground. Then some Indian intones a chant, which he sings alone, and the sport, such as it is, begins. At the bidding of the prompter, the coward makes a furious sally in one direction, and with his spear stabs the empty air. Then he dashes back in the opposite direction and slashes into the air again. Next he runs some other way and stabs again. Now perhaps he makes a feint to pierce the woman. Thus the prompter keeps him chasing backward and forward, spearing the thin air toward every point of the compass, or making passes at the woman, until nearly tired out, and the patience of the American spectators is exhausted, and they begin to think the whole affair will terminate in "mere dumb show." But finally, at a word from the prompter, the spearman makes a tremendous run at the woman and stabs her in the umbilicus. She falls over on the ground, quivering in every limb, and the blood jets forth in a purple stream. The Indians all rush around her quickly and hustle her away to another place, where they commence laying her out for the funeral pyre, but huddle around her so thickly all the while that the Americans cannot approach to see what is done. Thus they mystify matters and hold some powwow over her for a considerable space of time, when she somehow mysteriously revives, recovers her feet, goes away to her wigwam, encircled by a bevy of her companions, dons her robe, and appears in the circle as well as ever, despite that terrible spear-thrust.

Men who have witnessed this performance tell me the first time they saw it they would have taken their oaths that the woman was stabbed unto death, so perfect was the illusion. Although this travesty of gladiatorial combat is intended merely for amusement, yet all the Indians, these stoics of the woods, gaze upon it with profound and passionless gravity. If they laugh at all it is only after it is all over, and at the mystification of the Americans.

Referring to another phase of the same dance, as practiced in another division of the Pomo, Powers says:

Their fashion of the spear dance is different from the Gallinomero. The man who is to be slain stands behind a screen of hazel boughs with his face visible through an aperture; and the spearman, after the usual protracted dashing about and making of feints, strikes him in the face through the hole in the screen. He is then carried off, revives, etc.²³

The novices who were thus shot were called *tcō'kteōk* (C) [plural *tcō'kteōkau*], and the person who did the shooting, at the direction of the head captain, was called *yo'mta* (C). The informant did not state just where the shooting was performed and was not explicit as to its exact nature, but it appears probable that it occurred in the dance-house. These novices were forbidden to eat fresh manzanita berries and the flesh of the fawn, the gray squirrel, and the red-headed woodpecker. After the shooting ceremony the novices were taken out into the area directly in front of the dance-house, and here a ceremony

²³ *Op. cit.*, p. 194.

of healing was performed over them by the one who shot them. He told them that they would have long life and health, and that a feast would be held for them in the course of a few days.

COMPLETION OF THE GUKSU CEREMONY

The Gū'ksū-dancers appeared only once each day in this Gū'ksū ceremony, though various other dances might be held during the day, and it was only upon the first morning that the ceremony about the pole and the scarification above described were held. The ceremony lasted, all told, six days. The ceremonies of the first day have just been described. Those of the following three days consisted of one appearance of the Gū'ksūs each day, accompanied by a simple dance.

On the morning of the fifth day, however, the children who underwent the scarification on the first day were again assembled and driven by the dancers as rapidly as possible about the village and out into the valley. The children held one another's hands as they were driven, making a continuous line. When they had become quite fatigued, they were made to lie down and the dancers covered them with branches. They remained here throughout the day and were again driven about in the same manner just after sundown, being again covered with branches, under which they stayed until morning. They were then brought in by the dancers and made to perform a short dance in a brush inclosure, called *ma'le* (E), which was built just outside the dance-house for this special purpose. After this, an old man, probably the same who performed the scarification, sang over the children. During this dance each child carried a small willow twig, which he threw onto a pile at the end of the dance, after which he was free to go his way, and the entire ceremony was ended. The fire-tender bore these twigs away and deposited them at some distance from the village.

A Gū'ksū-dancer appeared at other ceremonies, but only for the purpose of removing sickness from the village. He was sometimes called in, as were other dancers, but often he appeared unannounced. He, however, always notified at least one individual, whose duty it was to assist him and direct his movements. Apparently this individual was not a particular official, but might be any friend of the Gū'ksū-dancer. The ceremony was a very short one. The Gū'ksū ran rapidly in and passed in a contra-clockwise direction four times around the fire. He then hurried to a position directly in front of the center pole and here ran swiftly back and forth four times over a

short, straight course. He then ran around back of the center pole and stopped on its west side. Here he turned his head slowly to the left; then ran a short distance toward the door, stopping and repeating this motion, making in all four such stops. After this he ran swiftly out through the tunnel and back to the woods, where he undressed and returned as an ordinary civilian to the village. As he started to run out of the tunnel, the people said, "ya . . . s . . . pūtsa'l kam" (E), that is, "ya . . . s . . . healthy make us." The prolonged "s" was simply a hissing expulsion of breath, and as it was blown out in this fashion any disease which might possibly have found lodgment in the body of the individual was supposed to depart with it and to be taken by Gū'ksū to his home in the south.

Before dressing, the Gū'ksū-dancers always chewed up and rubbed upon their bodies the very sweet-scented seed of a certain species of conifer, kawa'cap (E), growing plentifully in the region of Clear Lake. A Gū'ksū-dancer was forbidden to eat meat or drink anything before the ceremony or before doctoring a patient, as described below. The Gū'ksū-dancer might, however, eat vegetable foods and drink water after the ceremonial swim, which always occurred directly after his dance. He could not eat meat or greasy food of any kind for four days after a ceremony.

TREATMENT OF DISEASE

In addition to their part in the scarifying ceremony just described, the Gū'ksū-dancers formed a class of medicine-men, and were often called in to minister to the sick. These "doctors," when curing the sick, dressed themselves in the costume of the regular Gū'ksū ceremony. As in the ceremony also, the Gū'ksū doctor had to be ceremonially summoned, and he came in from the woods impersonating the supernatural Gū'ksū. The latter was pictured, to all intents and purposes, as coming from his home in the south to perform the "medicine" rite and carry away with him the disease from the sick person. A special call was used in this case as follows: "hyō . . . hyō' . . ." repeated four times.

The Gū'ksū doctor never spoke and never sang over his patients, but constantly blew a double bone whistle in a characteristic way, a very short blast followed by a very long one. Upon reaching the patient, who might be either in or out of doors, he ran around him several times. He then inserted the point of his staff under the neck of the patient and made motions four times as if prying upwards.

He next inserted the staff under the shoulder and repeated this prying motion four times. He did the same at the hips, and finally at the knees.

He next tapped and pressed down with his staff; first upon the forehead, then upon the chest, then upon the belly, and finally upon the knees of the patient. After this he ran rapidly out of the village and into the hills, where he stopped and turned his head toward the left four times. He then disappeared and was supposed to have returned to his supernatural abode in the south, carrying with him the ailment of the patient.

While the above was the typical procedure of one of these doctors in curing a patient, he had great latitude, and might, at his own option, omit altogether certain of the above mentioned movements or use others in their places. For instance, he might pry as above, or he might press and pat the body of the patient. On the other hand, he might simply pass his staff down over the body of the patient a number of times, usually four or some multiple of four, or he might omit the use of the staff entirely and "doctor" with his whistle only, in which case he bent over or knelt beside the patient and blew his whistle over the various parts of his body, particularly those recognized by the patient as the seats of pain.

DANCES

The dances either formed integral parts of the above ceremonies or, as stated, might be incidental and entirely unrelated to them. The word for dance is *xe* in the Eastern Pomo dialect, and *ke* in that of the Central and Northern Pomo. The following is a list of the Pomo dances:

<i>gīlak ke</i>	<i>kara'iya ke</i>
<i>hōhō ke</i> or <i>hō'hōwa ke</i>	<i>sawe't ke</i>
<i>cōkin ke</i>	<i>hī'wē ke</i>
<i>dūtūka ke</i>	<i>ī'dam ke</i>
<i>ya'ya ke</i>	<i>xo'ke</i>
<i>yō ke</i>	<i>xahlū'igak ke</i>
<i>mateō ke</i>	<i>gū'ksū ke</i>
<i>lēhū'ye ke</i>	<i>ma'ta ke</i>
<i>kalī'matōtō ke</i> or <i>kalī'matautau ke</i>	<i>lo'le ke</i>
<i>īwī ke</i>	<i>mo'mimomī ke</i>
<i>gūnū'la xe</i>	<i>to'to ke</i>
<i>he'lehela ke</i>	<i>taūgū ke</i>
<i>da'ma ke</i>	<i>badjū'ca ke</i>
<i>dja'ne ke</i>	<i>sīta'iya ke</i>

In a large measure the various dances were very similar to one another so far as the steps were concerned. The characteristic step of the men was a rhythmic stamping of the feet, with the body held in a half-crouching posture. Sometimes this dancing was done "in place," that is, without moving from one situation. As a rule, however, the dancer moved over a definite course in each dance. The movement was varied slightly in accordance with the songs. Some songs were very lively and the steps correspondingly rapid, while others were much slower. All were usually sung to the accompaniment of the large foot-drum, and split-stick, or cocoon rattle. Sometimes the dancers used single or double bone whistles.

The women usually danced in place, twisting the body about and swaying slightly from side to side with little or no motion of the feet. In some instances, however, they moved over a definite course as did the men.

The dance paraphernalia of the men consisted of the following articles:

1. The feather skirt.
2. The head-net, *bōlmaki* (E).
3. The down-filled head-net, *i'bōlmaki* (E).
4. The skewer, called *kanō* (N, C, E), with which the feather headdresses, tufts, etc., were pinned to the head-net.
5. The feather tuft, *biterk* (E), *kaa'iteil* (C).
6. The big-head headdress.
7. The yellow-hammer feather forehead-band, *tsō'lōpa* (N, C, E).
8. The trembler plume, *kata's* (N, C, E).
9. Loose down, *te* (E), which was sometimes scattered about over the freshly painted skin.
10. A fillet of pepperwood leaves, *bēhe'p marit* (E).
11. A small green twig or a bunch of shredded tule, used in certain dances. Any object of this kind carried in the hand while dancing was called *kato'hle* (E).

Certain of these objects were prescribed for certain dances. In addition, various items of ordinary personal adornment were worn which do not specifically belong to dance paraphernalia—ear plugs, pendants, necklaces of beads, etc.

The dance paraphernalia of the women was the same as that of the men, though, as a rule, the men dressed much more elaborately than the women. The latter had, however, one special type of forehead-band which they alone used. This was a fur band or roll provided with a number of beaded, yellow-hammer quill bangles.

An important part of the attire for any dance was the painting, which varied greatly and was usually carefully prescribed for each

dance. The body, or a large part of it, might be covered with one solid color, and longitudinal or horizontal stripes of various widths and also dots of various sizes might be used.

Black paint, *masi'k* (E) (literally, coals or charcoal), was most easily obtainable and most freely used. It consisted of ordinary charcoal from the fire. If a large surface was to be painted, the charcoal was pulverized in the palms of the hands and rubbed on. If lines were desired, this powder might be applied with the finger, or a piece of charcoal might be used as a pencil. Also stripes were sometimes produced by scraping off part of the paint with the fingernails, leaving the skin exposed along these lines. In case a sticky surface was required, as, for instance, when down was to be later applied, the paint was mixed with saliva.

White paint, *wala'ac* (E), made from a whitish or very light blue earth, was also considerably used. It was applied as was the black paint.

Red paint, *ohma'r* (E), was made by pulverizing cinnabar, which was a rather rare mineral in the Pomo region and was much prized and used very sparingly.

For purposes of presentation it is simplest to divide the dances into three classes: (1) those danced by men and women together; (2) those danced by men; (3) those danced by women. Fairly full information was obtained about some of these dances, while in other cases barely the names were remembered. The following dances come under the first heading:

<i>gi'lak</i>	<i>mateō'</i>	<i>gūnū'la</i>
<i>ho'ho</i>	<i>lēhūye</i>	<i>da'ma</i>
<i>cō'kin</i>	<i>kali'matōtō</i>	<i>dja'ne</i>
<i>dūtū'ka</i>	<i>iwi'</i>	<i>kara'iya</i>
<i>ya'ya</i>	<i>he'lehela</i>	<i>sawe't</i>
<i>yō</i>		

DANCES IN WHICH MEN AND WOMEN PARTICIPATED

Gi'lak.—The *Gi'lak* dance differed from most other Pomo dances in that it consisted of two performances: one used for opening and closing proceedings; the other, or main dance, coming in between.

The men painted with a single color (black, white, or red) all of the face below the eyebrows, after which they scattered eagle-down upon it. This gave the face a white, fluffy appearance. They painted the chest and shoulders black. The legs were painted either all black

or all white. Then longitudinal stripes were scratched through the paint with the fingernails. The arms were painted with three bands, each four fingers in width; one about the middle of the upper arm, one about the elbow, and one about the middle of the forearm.

Upon the top of the head each wore a feather tuft. This was parted from front to rear, and the yellowhammer-feather forehead-band, which was attached to the hair so as to hang down to the eyebrows, passed through the part in this and hung down the back to about the hips. A feather skirt tied just under the arms, and entirely covering the back, completed the costume, except for a few green twigs

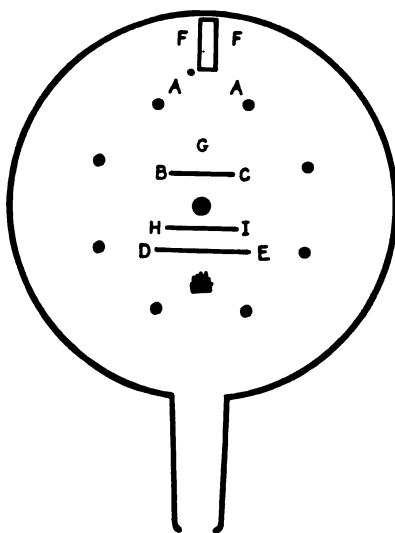


Fig. 8—Position of dancers in *g'ilak ke*.

which were held in both hands directly in front of the face while the dance was actually in progress. No whistle was used by these dancers.

The women painted the upper part of the body in the same way as the men and wore a feather tuft and the regular woman's forehead-band with bangles. They wore no feather skirt, but otherwise attired themselves as did the men.

The men were divided into two groups at A, A (fig. 8) on both sides of the rear of the dance-house, the women dancers being likewise divided into two groups at F, F on each side of the drum.

When all was ready for the dance, the head singer started an air and sang alone for several minutes. Then, at a given signal, the burden-singers joined in with the chorus, all accompanying their

singing with split-stick rattles. This was the signal for the beginning of the first or preliminary division of the dance. The men went to a position about midway between the center pole and the drum, where they formed a line BC, the women forming a group in the position G, directly behind the line BC. Here was held the preliminary division of the dance, called *tehe'sbax* (E), in which the participants danced in place for a few minutes.

The men next moved to the position DE, passing on each side of the center pole, the women following them to the position HI. They thus formed two lines, facing the center pole. Here the principal part of the dance was held. The chief singer again started the air, being joined at the proper time by the burden-singers. Simultaneously with the latter, the master of ceremonies gave the signal for the dancers to begin. During the dancing he repeated the proper dance formula²⁴ four times, finally saying, "i, i' . . ." and the dance stopped. At the beginning of the dance, upon the signal from the master of ceremonies, the dancers, both men and women, whirled around and faced the fire, and as the dance stopped at the above signal they whirled back again so as to face the center pole. The dancers moved sidewise back and forth four times in all, along the lines DE and HI. Standing in their original positions, they then performed for the second time the movement first described, thus ending the dance.

This entire dance might be repeated as many times as desired, no definite number being prescribed; but when each set of three divisions, as above stated, was finished, the dancers returned to A, A and F, F, retracing as nearly as possible the courses which they had traversed in coming from these two positions. After the last set of this dance, they removed their dance costumes near the drum.

hō'hō ke.—The *hōh'ō* or *hō'hōwa* dance, which may be taken as a type of many of those dances which follow, lasted from one-half to three-quarters of an hour and could be danced at any time of year. The men were dressed as follows: The lower part of the face (i.e., below a line running from just under the ear to a point just under the nose) was painted black. A black band, about four fingers in width, ran from each of the acromia to the sternum. Four similar bands encircled each arm, two above and two below the elbow, while four such bands were placed upon each leg. Upon the head each man wore a feather tuft, a yellow-hammer feather forehead-band and a pair of trembler plumes, and upon the back a feather skirt. Each dancer carried a bone whistle also.

²⁴ Any dance formula such as this was called *bakū'mhwakil* (E).

Each woman wore a feather tuft and the usual woman's forehead-band. In each hand she carried a small bunch of shredded tule. These bundles, called *kato'hle* (E), were made by tying together at one end several stems, perhaps six or eight inches long, and then shredding the loose ends with a basketry awl. This dance was a very lively one and took its name, as did several others, from some of the words of the song accompanying it. Part of the burden of this song is a high-keyed "hō, hō, hō, hō . . ." very rapidly spoken by the burden-singers in unison.

The music was provided by a head singer, several burden-singers, and a drummer. Each of the singers used a split-stick rattle.

cō'kin ke.—The *cō'kin* dance was very similar, in many respects, to the *hō'hō ke*. One informant said that the dress and painting were exactly the same, except that the upper arm and thigh bore one painted band each, instead of two as in the *hō'hō ke*.

dūtū'ka ke.—The same might be said of the *dūtū'ka ke* (C), or *dūtū'ga xe* (E). The dress of the men was identical with that of the *hō'hō*-dancers. The men used no whistles. The women wore the regular woman's forehead-band. From one to perhaps eight or ten persons danced at once, and the dance had no stated duration. As one informant expressed it, they simply danced until they were tired.

ya'ya ke.—Little could be learned concerning the *ya'ya* dance, except that it was danced by both men and women, and that the painting and attire were the same as for the *hō'hō*. The feather skirt was worn, but no whistle was used.

yō' ke.—The men decorated themselves for this dance as for the *hō'hō* dance, except that there were three stripes around the arm instead of four, and with the addition of some down scattered over their heads and faces. Each woman had a narrow, black line running down the chin and a similar line running out from each corner of the mouth toward the ear. Otherwise her decorations consisted of a feather tuft and a yellow-hammer feather forehead-band. A considerable number of men and women sang, each keeping time with a split-stick rattle.

matcō' ke.—In the *matcō'* dance the music was provided by one man, who accompanied his song with a split-stick rattle. The dancers painted themselves as in the *yō'* dance. Each wore a feather skirt.

lēhū'ye ke.—The *lēhū'ye* dance was sometimes called the *ka'tcaha*. The term *lēhū'ye* is the correct one for this dance. In fact, the term *ka'tcaha* has been applied to it only recently and was derived from the

fact that whenever certain of the Pomo men became intoxicated they almost always sang the songs of this dance; hence the name "whiskey dance," or *ka'tcaha ke*. If paint was employed it usually consisted of a coat of black on the lower part of the face and three bands about each arm and each leg. Other designs were used, however. Upon the head the dancer wore a feather tuft, a yellow-hammer feather forehead-band, and a very large trembler plume, worn erect at the back of the head. Each man wore a feather skirt. The women painted the lower part of the face and wore a feather tuft and a yellow-hammer feather forehead-band.

kali'matōtō ke.—The *kali'matōtō* or *kali'mataūtaū*, the thunder dance, was danced each morning and each evening during four successive days. It could be danced at other times of the day in addition if desired, and other dances might meanwhile be performed at any time of the day except morning and evening. The men painted their naked bodies with vertical stripes. Upon the face but one stripe appeared, running from ear to ear and just below the nose. Upon the head each man wore a down head-net, a feather tuft, and a pair of trembler plumes. No yellow-hammer feather forehead-band, down, or feather skirt was used. The women dressed very simply. They wore the same stripe on the face as did the men, and upon the head a head-net of down and a feather tuft. Both men and women had bone whistles, and each man had a light staff²⁵ four or five feet long, with one or more cocoons attached as a rattle at its upper end.

īwī' ke.—In the *īwī'* (C) or Coyote dance the men were nude except for a coat of white paint over the entire body. Upon the head there was a feather tuft, parted from front to rear to permit the passage of a large yellow-hammer feather forehead-band from the root of the nose over the head and down the back. The women were similarly painted and attired, except that each wore an ordinary skirt of shredded tule or other material. Each dancer carried a small bunch of green twigs in the hand, so held as to obscure the face as much as possible. This perhaps typified the crafty and slinking nature of the coyote. The music was provided by one singer, who used a cocoon rattle.

gūnū'la xe.—In the *gūnū'la xe* (E) or Coyote dance the women dressed as in the *hō'hō* dance. The men painted themselves as did the performers in the ghost dance, and wore the parted feather tuft

²⁵ The general term *xe'dakōik* (E), signifying anything held in the hand while dancing, is applied to this staff.

with the yellow-hammer feather forehead-band passing through the part and down the back. They also wore feather skirts, and used whistles.

he'lehela ke.—The painting for this dance was the same as for the *hō'hō*. Each man wore upon his head a down head-net, a pair of trembler plumes, and a yellowhammer-feather forehead-band. Each had a bone whistle and a *ke'eige*. Neither whistles nor feather skirts were used. Each woman wore a feather tuft and a down head-net.

A fairly high pole similar to the one employed in the initiation rite of the *Gū'ksū* ceremony was erected in the area directly in front of the dance-house. The participants gathered about its base and each man attempted to climb it, while the women danced in a circle about its base. The wife of the climber, and sometimes other women, threw balls of "pinole" (grass-seed meal) at him as he ascended.

da'ma ke.—Concerning the *da'ma* dance, little could be learned save that it was connected with some sort of esoteric organization and was very rarely danced. There was but one woman who was said to know all the details of this dance, but the opportunity did not present itself to interview her. She is now deceased.

dja'ne ke.—The *dja'ne* dance was always danced by two men and four women, the men forming the middle of the line, two of the women being at each end. They wore similar costumes, which were very simple. All that could be learned concerning the details, however, was that the mouth was painted black with a short line running out from each corner, and that each dancer wore a feather skirt upon his back and used a whistle.

kara'iya ke.—The *kara'iya* dance was danced by two men and two women, and only once during any given ceremony. Men and women dressed alike, except that the women wore the ordinary woman's skirt. No paint was used. Upon the head was a feather tuft, a yellow-hammer-feather forehead-band, two trembler plumes and some down. Each dancer carried a bone whistle.

sawe't ke.—No details were learned concerning this dance.

DANCES IN WHICH ONLY MEN PERFORMED

There are known among the Pomo at least five dances in which the performers were always men. They are the *hi'we*, the *i'dam*, and the *xō* or fire dance and the ghost and the *Gū'ksū* dances mentioned above.

hi'we ke.—While this was danced by men only, women were privileged to witness it. The dancers first painted the entire body black

and then added many white spots irregularly placed all over the body. Each dancer carried a staff six or seven feet long and similarly painted. The face of the dancer was painted black, and each wore a large feather tuft on his head. This was, however, not so large as that worn by the Gū'ksū-dancer. The music for this dance was quite unusual in that the drum was not used. The head singer also acted as master of ceremonies. The dancers formed a straight line and danced in place without any forward or lateral motion, and all joined in the singing.

ī'dam ke.—Little could be learned of the ī'dam dance, except that it was danced by men, with women participating in the singing. One unique feature was that while it was in progress no one in the village might keep water in his house. Also if any one ate meat during a ceremony in which this dance was used he would become insane and could be cured only through the ministrations of the chief dancer of the ī'dam. While no further evidence was obtained in substantiation, these facts point to the existence of an esoteric society connected with this dance. One informant maintained that the last man who knew the details of this dance died some years ago.

xo ke.—The xo ke, or fire dance, was held at any desired time during a ceremony. It usually followed the feast of welcome, as it may be called, which was tendered the guests immediately after their arrival. It required no special paraphernalia. In fact, it amounted to little more than a regular sweat-bath, such as was taken in the sudatory,²⁶ except that it was on a larger and more elaborate scale.

xahlū'igak ke.—See under Ghost Ceremony, above.

gū'ksū ke.—See under Gū'ksū Ceremony, above.

DANCES IN WHICH ONLY WOMEN PERFORMED

Two dances are still remembered which come under this heading. They are the ma'ta and the lo'le.

ma'ta ke.—One man acted as master of ceremonies and another sang to the accompaniment of a cocoon rattle. The dancers painted the cheeks and lower part of the face black and then scratched vertical lines in the paint. The only headdress worn was the yellowhammer-feather forehead-band. In each hand was held a small green branch. The arms hung down, but with a flexure at the elbow which brought these green sprigs directly in front of the dancer. The dancers formed a line and danced back and forth sidewise over a short, straight

²⁶ See the article on "Pomo Buildings," in the *Holmes Anniversary Volume*, mentioned above.

course. This is one of the very few dances which may yet be seen, though in a modernized form, at Fourth of July celebrations.

lo'le ke.—As before, a man acted as master of ceremonies and another man sang, accompanying himself with the cocoon rattle. The informant was not certain just what kind of costume was worn, but knew that no paint was employed.

ADDITIONAL DANCES

The names of several other dances are remembered, but nothing in regard to detail. These are *mo'mimomī*, *toto*, *ta'ūgū*, *badjū'ca*, and *sīta'iya*. The last of these was said by one informant to make up, along with the *gi'lak* and *hō'hō* and *dūtū'ka* dances, a special ceremony, about which nothing further is known.

THE MESSIAH CULT

During the latter years of the nineteenth century a "Messiah" cult has been introduced among the Pomo by the Wintun of the Sacramento Valley. In comparatively recent times the "prophets" of this cult acquired great importance and, while the cult flourished, to a certain extent superseded the leaders of the old ceremonies. This cult first appeared among the Pomo at Upper Lake, then at Sulphur Bank, then at Long Valley, and finally in the Ukiah Valley. The function of the prophet, or dreamer, as he is commonly styled by the Indians, was to have dreams or waking visions concerning dances and other matters in which the people were interested. The prophets were supposed to receive through these visions direct revelations from presiding spirits, and the people formerly gave much credit to their teachings. They virtually formed a priesthood which replaced the old "captains" in the direction of all ceremonial matters.

One of the characteristic features of this cult was the painted designs upon the interior of the dance-house. The last truly primitive dance-house of this type in the Pomo region was photographed by the author in 1901, 1902, and is described and illustrated elsewhere.²⁷

Another important feature was the erection before the dance-house of a pole bearing banners and streamers decorated with the particular designs which the priest had seen in his vision.

²⁷ "Pomo Buildings," *Holmes Anniversary Volume*.

CONCLUSION

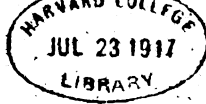
Pomo ceremonies were in general quite simple and the ceremonial life was characterized by an absence (1) of any fixed ceremonial season or sequence of ceremonies, and (2) of any extensive priesthood or secret order controlling ceremonial matters. Some of the ceremonial performances possessed certain esoteric features, such as initiation rites and special restrictions on the part of the uninitiated.

We note the presence of a few fairly elaborate ceremonies and a considerable number of dances, some of which were employed as integral parts of certain ceremonies, others as merely incidental to them. These dances usually followed one another without any definite order or relation, though in certain cases definite dances were prescribed as parts of given ceremonies.

One ceremony has a definite mythological background, but this has been lost elsewhere. No myths are told today to account for the other performances.

In most of the dances an indefinite number of both men and women might participate. In two dances the number of performers of each sex was definitely prescribed. In five, only men might participate, and two were strictly women's dances. In other words, there is patent in Pomo ceremonies a rather thorough going democracy regarding the positions of the sexes.

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POMO BEAR DOCTORS

BY

S. A. BARRETT

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POMO BEAR DOCTOR'S SUIT
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INTRODUCTION

One of the most concrete and persistent convictions of the Indians of a large part of California is the belief in the existence of persons of magic power able to turn themselves into grizzly bears. Such shamans are called "bear doctors" by the English-speaking Indians and their American neighbors. The belief is obviously a locally colored variant of the widespread were-wolf superstition, which is not yet entirely foreign to the emotional life of civilized peoples. The California Indians had worked out their form of this concept very definitely. Thus Dr. Kroeber says:¹

¹ A. L. Kroeber, "Religion of the Indians of California," present series, IV, 331, 1907.

A special class of shamans found to a greater or less extent among probably all the Central tribes, though they are wanting both in the Northwest and the South, are the so-called bear doctors, shamans who have received power from grizzly bears, often by being taken into the abode of these animals—which appear there in human form,—and who after their return to mankind possess many of the qualities of the grizzly bear, especially his apparent invulnerability to fatal attack. The bear shamans can not only assume the form of bears, as they do in order to inflict vengeance on their enemies, but it is believed that they can be killed an indefinite number of times when in this form and each time return to life. In some regions, as among the Pomo and Yuki, the bear shaman was not thought as elsewhere to actually become a bear, but to remain a man who clothed himself in the skin of a bear to his complete disguisement, and by his malevolence, rapidity, fierceness, and resistance to wounds to be capable of inflicting greater injury than a true bear. Whether any bear shamans actually attempted to disguise themselves in this way to accomplish their ends is doubtful. It is certain that all the members of some tribes believed it to be in their power.

Pomo beliefs differ rather fundamentally from those here summarized. In the first place, the Pomo appear to know nothing of the magician acquiring his power from the bears themselves. Since they ascribe no guardian spirit to him, he is scarcely a shaman in the strict sense of the word. The current term “doctor,” misleading as it may seem at first sight, may therefore be conveniently retained as free from the erroneous connotation that “shaman” would involve.

In the second place, the power of the doctor was thought to reside wholly in his bearskin suit, or parts thereof, and apparently was considered the result of an elaborate ceremony performed in its manufacture and subsequent donning. This distinctly ritualistic side of the bear doctor’s practices removes him still more clearly from the class of the true shaman.

Thirdly, there is a detailed Pomo tradition of the origin of bear doctors. This story is cast in the mold of a myth; in fact, its initial portions may be taken from the current mythology of the tribe. Other parts are, however, remarkably unmythical and matter of fact. The resultant whole is therefore rather incongruous, and, in the form recorded, may have been somewhat influenced by the speculations of an individual. But the events which it describes agree so closely with the beliefs which the Pomo at large entertain concerning the practices of recent bear doctors that the question of the extent of the prevalence of the myth among the group is of less importance than the insight which the tale affords into the Pomo mind. Its many specific references make it a suitable introduction to the presentation of the other data secured.

These peculiarities render a comparison of Pomo bear-doctor beliefs with those of other Californian groups desirable, but the published data from elsewhere are unfortunately too fragmentary to make such a study profitable at present. It has only seemed feasible to append some comparisons with Yuki and Miwok beliefs.

It may be added that the statements which constitute the body of this paper are the statements of native informants cited as representative of their convictions, and not as the opinions of the author. The degree to which the reputed practices of bear doctors were actually practiced is far from clear, as Dr. Kroeber has stated. Whether, however, they rest mainly, partly, or not at all on reality, they furnish interesting psychological material.

ORIGIN ACCOUNT

The following tradition was obtained in January, 1906, from an old Eastern Pomo man and his wife. The husband stated that he had himself been a bear doctor at one time in his life. In his later years he became a noted practitioner of ordinary Indian "medicine," and was much in demand as a "sucking doctor." His old wife proved a very valuable informant on Pomo mythology, and it was while relating myths that the subject of bear doctors was mentioned and the fact developed that her husband had practiced this craft when a younger man. The incident led to a full discussion of the entire matter with the couple, and resulted in the recording of the following material. This was given by the Indians more as a personal favor than for any other reason, and was communicated only after a pledge that their story would not be spread about as long as the two were still alive. Both are now deceased, as is also the interpreter who aided in recording the material, so that there is no reason for longer withholding this information. Out of deference to the relatives of the three, it seems best not to name them in these pages.

Besides the myth, these two old people furnished the greater part of the descriptive information given in the remainder of this paper, but additional data from other informants have been included. Unless otherwise stated, the Pomo terms are in the Eastern dialect.

In the days before Indians were upon the earth, and when the birds and mammals were human, there was a large village at *danō xa*.² These people were

² This is the site of an old Eastern Pomo village and is situated in the foothills about two miles northeast of the town of Upper Lake. It is located on the western slope of a hill and overlooks the lake.

great hunters, pursuing their game with bows and arrows and spears. But chiefly they set snares in every direction about the village.

They had caught many kinds of game, but finally found a large grizzly bear in one of the snares. They saw that his carcass would furnish a great feast, but they were confronted with the difficult problem of getting their prize to the village. Each of the birds tried unsuccessfully to carry the bear, first on his right shoulder and then on his left, in the following order: *tsai* (valley bluejay), *auaü* (crow), *ilil* (a species of hawk), *tiyal* (yellowhammer), *karats* (red-headed woodpecker), *sawalwal* (mountain bluejay), *bakaka* (pileated woodpecker), *kabanasiksik* (a large species of woodpecker), *cagak ba biya* (a species of hawk), *kiya* (a species of hawk), *siwa* (mountain robin), *tsitôtô* (robin redbreast), *tcüma tsiya* (grass bird), and *tintal*.

Finally a very small bird, *tsina bitüt kaiya patsörk*,³ succeeded in carrying the bear. He first tied its front and hind feet with a heavy milkweed-fiber rope in such a manner as to enable him to sling the carcass over his shoulder with the body resting upon his hip. No one else had thought of any such method. The ingenuity of this bird, the smallest of them all, won success and enabled him to walk away easily with the heavy load. The others laughed uproariously and shouted their approval of the feat, immediately naming him *bürakal-ba-kidjon*,⁴ literally grizzly-bear-you-carrier. Thus he carried the grizzly home to the village, and Bluejay, the captain, cut it up and divided the meat among all the people. As a reward for his service *bürakal-ba-kidjon* was given the bearskin. This was a very valuable present, worth many thousands of beads.⁵

With this skin in his possession, *bürakal-ba-kidjon* thought a great deal about the grizzly bear and became very envious of his powers of endurance, his ferocity, and his cunning. He forthwith began to study how he might make some use of the skin to acquire these powers. He needed an assistant, and finally took his brother into his confidence. The two paid a visit to *cô danô*, a high mountain east of the village. They then went down a very rugged cañon on the mountain-side and finally came to a precipice the bottom of which was inaccessible except by way of a large standing tree, the upper branches of which just touched its brink.

In a most secluded and sheltered spot at the foot of this precipice they dug a cavern called *yêlîmo*, or *bürakal yêlîmo*, which they screened with boughs so that it would be invisible even if a chance hunter came that way. They dug an entrance about two feet in diameter into the side of the bank for a distance of about six feet. This led slightly upward and into a good-sized chamber. The mouth of this entrance was so arranged as to appear as natural as possible. Some rocks were left to project and twigs were arranged to obscure it. As a further precaution against detection the brothers always walked upon rocks in order never to leave a footprint, in case any one became curious about their

³ Identity unknown, and common Indian name not recorded.

⁴ This name in the Northern dialect is *bûta baôm*, and in the Central dialect is *bitaka yalô djak*, literally grizzly bear between the legs flew. The Northern people say that the name of the bird previous to the accomplishment of this feat was *mâbasômsô*. In speaking of this bird one Northern informant stated that when the first people were transformed into birds this man was wearing a very large head-dress. This accounts for the fact that the bird now carries a large topknot.

⁵ In very early times it is said that a string of four hundred beads was worth an amount about equal to two and one-half dollars. Later, after the introduction of the pump-drill, this value dropped to one dollar. On the basis of modern valuations of such skins, and under the higher rating of beads, this hide would have been worth 12,000 beads.

movements. They even went so far as to have the rocks at the foot of the precipice, where they stepped from the branches of the tree, covered with leaves, which they were careful to adjust so as to obliterate the slightest vestige of their trail should any one succeed in tracking them to this point. In this cave they began the manufacture of a ceremonial outfit.

They went out from the village daily,⁶ ostensibly to hunt, and they did, as a matter of fact, kill deer and other game, which they brought back to the village; but they never ate meat, nor did they have intercourse in any way with women. When asked why he was thus restricting himself, *būrakal-ba-kidjon* evaded the truth by saying that he expected to gamble, and that he had a very powerful medicine which would yield him luck only with the most rigid observance of certain restrictions.

When they began this work of preparing the outfits, they also provided a large sack of beads with which to bribe to secrecy any one who might discover them.

The two worked thus in the cavern four months.

When the outfit for *būrakal-ba-kidjon* was done, the latter emerged from the cavern and ran around its entrance eight times each way, first in a counter-clockwise and then in a clockwise direction. The two then prepared a level, elliptical area, about twenty by fifteen feet, smoothed like a dancing floor, where *būrakal-ba-kidjon* might practice and become a proficient bear doctor.

Upon putting on the suit for the first time, the procedure was as follows: While seated in the dancing area, *būrakal-ba-kidjon* took the bearskin in both hands and swung it over his right shoulder and then turned his head to the left. This was repeated four times in all. He next adjusted the skin carefully over a basketry head-frame and placed the latter securely upon his head. He next inserted his arms and legs within the suit and laced it up tightly in front, beginning at the lower part of the belly and lacing upward to the neck.

He then tried to rise and act like a bear. This he did four times, saying "ha" (strongly aspirated), and turning his head to the left after each trial. He finally arose on all fours and shook himself after the fashion of a bear, some of the hair falling out of the skin as he did so. He then jumped about and started off in each of the four cardinal directions in the following order: south, east, north, and west. Each time he ran only a short distance, returning to the practice area for a new start. Finally, the fifth time he started off, he went for about half a day's journey up the rugged mountains to the east. He found that he could travel with great speed and perfect ease through thick brush and up steep mountain-sides. In fact, he could move anywhere with as much ease as though he were on a level, open valley.⁷ On this journey he hunted for soft, sweet manzanita berries, finally returning to the practice ground after covering a great distance, perhaps a hundred miles, in this half day.

He repeated this ceremonial dressing and the race into the mountains for four days, returning each evening to the village and bringing the game he had

⁶ In giving the account the informant stated that while making their ceremonial attire the two worked entirely at night, as was always done by Indian bear doctors later, and then only upon perfectly dark nights, when the moon was not shining or when it was obscured by clouds. In case the moon suddenly emerged from behind a cloud they immediately ceased their work. This was made necessary by the fact that many hunters were abroad at night.

⁷ Another informant told of a marvelous journey said to have been made by his grandmother while the family resided many years ago in Eight-mile Valley. She went during one night to Healdsburg, Sebastopol, Bodega Bay, and Big River, thence returning to her home, covering in those few hours about two hundred miles.

killed. Finally, on the fifth day, he again put on his ceremonial dress and went over to a creek, called *taaiaka*, situated a considerable distance northeast of his hiding place. Here he found a bear standing erect and eating manzanita berries. The bear attempted to escape, but *būrakal-ba-kidjon* gave chase and by virtue of his supernatural power was able to tire and outdistance the bear, overtaking him at length and killing him with an elk-horn dagger, which was part of his outfit.

He returned and brought his brother, who tied the bear's legs together, as had *būrakal-ba-kidjon* when he won his name, and carried the carcass to the village, *būrakal-ba-kidjon* meantime returning to the secret cavern.

The brother skinned the bear and told the captain to call all the people into the dance-house to receive their portions of the meat. On the following day a great feast was celebrated, every one joining and providing a share of acorn mush, pinole, bread, and other foods.

The two brothers then announced that they were again going out to hunt. Instead, they really went to this secluded spot and made a second bear doctor's suit. This one was for the brother, who underwent the same training as his brother.

Finally the two brothers started out one day toward the north, going up to a creek called *gūhūl bidame*. Here they found a deer hunter coming down a chamise ridge. They hid until the hunter came within about fifteen paces of them. They then sprang out and attacked him, the elder of the two bear doctors taking the lead. This hunter was followed at a distance of perhaps a quarter of a mile by four others, and when he saw the bears he made a great outcry to his comrades. After a short chase the bear doctors caught and killed him. They tore his body to pieces, just as bears would do, took his bow and arrows, and started off.

Meantime the other hunters, who were Wolves (*tsihmeū*), hid and escaped the fate of their companion. After the bear doctors had departed, they gathered up the bones and whatever else they could find of the remains of the dead hunter and took them back to the village. The usual funeral and burning rites were held, and the whole village was in special mourning on account of the fact that the hunter had been killed by bears.

The bear doctors went back to their hiding place, disrobed, and returned to the village as quickly as possible, arriving shortly after the four Wolves had brought in the remains of their comrade. They ate their supper and retired almost immediately, though they heard the people wailing in another part of the village. Their own relatives, the Birds, were not wailing, for they were not directly concerned, since the different groups of people lived in different parts of the village and were quite distinct one from another. During the evening the captain, Bluejay, came in and told the brothers the news of the hunter's death, asking if they had heard anything of the manner of it. They replied: "No; we know nothing of it. We went hunting, but saw nothing at all today. We retired early and have heard nothing about it." Bluejay then said: "We must make up a collection of beads and give it to the dead man's relatives, so that they will not consider us unmindful of their sorrow and perhaps kill some one among us." The bear doctors agreed to this and commended the captain for his good counsel.

Accordingly, the next morning Bluejay addressed his people, saying: "Make a fire in the dance-house. Do not feel badly. Wake up early. That is what we must expect. We must all die like the deer. After the fire is made in the dance-house I will tell you what next to do." Every one gave the usual answer of approval, "O".

After the usual sweating and cold plunge by the men, the captain again spoke, calling their attention to the fate of their friend the day before and asking that every one contribute beads to be given as a death offering to the relatives of the deceased.⁸

Bluejay himself contributed about ten thousand beads, and others contributed various amounts, but the two bear doctors contributed about forty thousand beads. This very act made the other people somewhat suspicious that these two were concerned in some way with the death.

As was usual, under such circumstances, word was sent to the Wolf people that the Birds would come over two days hence with their gift. The Wolf captain accordingly told his people to go out and hunt, and to prepare a feast for the Bird people for the occasion. On the appointed day the beads were brought by the Bird people to the house in which the deceased hunter had formerly lived, the usual ceremonial presentation of them to the mourners was performed, and the return feast by the Wolves was spread near by.

The next morning the two brothers again left the village, saying that they were going hunting. They went to their place of seclusion, donned their bear suits and again started out as bears. By this time they had established regular secret trails leading to their hiding place, and regular places on these trails where they rested and ate. These trails led off in the four cardinal directions, and when they put on their suits it was only necessary to say in what direction they wished to go and what they wished to do, and the suits would bear them thither by magic.

Upon this occasion they went eastward, and finally, in the late afternoon, met Wildcat (*dalōm*) carrying upon his back a very heavy load. They immediately attacked and killed him, but did not cut him to pieces as they had Wolf. It is a custom, even now, among bear doctors never to tear to pieces or cut up the body of a victim who is known to have in his possession valuable property. Hence they stabbed Wildcat only twice. When they looked into the burden basket which he had been carrying they found a good supply of food and a large number of beads of various kinds. They took only the bag of beads, which one of them secreted inside his suit. Upon reaching their place of seclusion they removed their suits and were soon back in the village. After supper they again retired early.

Now Wildcat had started off early one morning to visit friends in another village, saying that he would be absent only two nights. When at the end of four days he had not returned his relatives became anxious about him, and his brother and another man set out for the other village to ascertain whether he had been there or if something had befallen him on the way. They found that he had set out from the other village to return home on the day he had promised. Then they tracked him and found his dead body. They made a stretcher⁹ and carried the body home.

They arrived at the village about mid-afternoon, and when about a half mile off they commenced the death wail, thus notifying the village of their

⁸ The bringing of beads as a death offering from one village to another, or from one political group of people to another, is called *kal kubek*, while such an offering taken to the home of the family of the deceased by relatives in the same village is called *kal banek*.

⁹ This stretcher is called *kaisak*, and consists of two side poles with short cross-pieces bound to them in such a manner as to resemble a ladder. It was used in early times for carrying the wounded or the dead back to the village. A corpse was bound to it by a binding of grapevine and the two ends of the stretcher rested upon the shoulders of the bearers.

coming. The people came running out to meet them, and the first to arrive were the bear doctors, who immediately assisted in carrying the stretcher into the village. Every one wailed for the departed, but the two bear doctors were loudest in their lamentations. Also they contributed liberally, in fact, more than all the other people together, when the death offering was made up.

For sometime thereafter the bear doctors did not go out, but finally they did so, returning with four deer, which they gave to their captain to be divided among the people for a feast. This the captain did, after the usual sweat-bath, on the following morning.

The next day the two brothers left the village before daybreak, donned their bear suits and journeyed southward to the Mount Kanaktai region. They made the journey by way of the east shore of Clear Lake, Lower Lake, and on down to near the present site of Middletown. Here they found a hunting party setting deer snares.¹⁰ One of these men was driving the deer up out of the cañon toward the place where the snares had been set. He saw the bear doctors and called out to his comrades: "Look out for yourselves; there are two bears coming." The hunters were up on the open, brushy mountain-side. Two of them ran down the hill to a tree, but the bear doctors reached it as soon as they, and, as they started to ascend, attacked and killed the two, taking their bows and arrows.

The other hunters then attacked the bear doctors, who fled northward, pursued by the hunters, whom they outdistanced. The bear doctors became tired and very thirsty, for they had drunk no water all day, so they ran up Mount Kanaktai to a small pond just southwest of its summit.¹¹

The bear doctors first ran four times each way around the pond and then disrobed completely, even taking off their bead armor. Leaving their entire suits lying on the shore, they first swam and rested, and then hung their suits on some small trees near by.

Shortly two men appeared, who approached close to them. The bear doctors said: "Oh, you have come; well, let us eat." The strangers came and seated themselves beside the bear doctors. They then had a good meal of seed-meal and meat.

The belts and strings of beads worn as armor inside the suit were piled up on the shore near by, and when the meal was finished the bear doctors gave all these beads to the two men, saying at the same time: "You must never tell any one, not even your brothers, mothers, or sisters, what you have seen and what we are doing." They even told the two men who they were, where they lived, and all about their activities. The men looked closely at the bear suits hanging near by and then went their way. The bear doctors again put on their suits and returned to their hiding place, disrobed, and traveled home in the evening, retiring early as usual.

When the people heard of the killing of two more hunters by two bears, they suspected the brothers, and formulated a plan to spy on them. All were to go hunting and certain ones were to keep a close watch on these two, and see just where they went and what they did. They also discovered that the

¹⁰ They were making a *bīcē gō*; i.e., setting snares in the brush without making a brush fence. The fence with snares is called *bīcē wari*.

¹¹ This pond, which is said to furnish the only water on this great mountain, was called *ka kapa*, and is said to be one of a very few ponds apparently without a spring, and called *ka dabō*, which are supposed to have been made in prehistoric times by bears as resting places for themselves. This pond is nowadays almost never visited by any one except hunters who have lost their way.

skins of the two bears killed by the brothers were nowhere to be found in the village.

The captain called all the men to go on a deer hunt, and all set off westward about midday to build a deer fence and set snares around Tule Lake, for they knew that many deer were feeding in the tule marsh there. Nothing unusual happened that day, but after all had left the village early the next morning some children who were playing about the village saw the two brothers *būrakal-ba-kidjon*, who had remained away from the hunt, giving illness as their excuse, start off toward the east. Some of the children stealthily followed them, while two others ran over to Tule Lake to warn the hunters. About midday the hunters saw two bears coming toward them. Several of the best hunters hid at an advantageous point in the very thick brush and tule, while the others continued their shouting and beating the bush to drive the deer into the snares in order that the bear doctors would not suspect the trap that had been set for them. The hunters had agreed to act as though they did not know that the bear doctors were near, but to shout if they were seen, "Two brother deer are coming!" thus giving the hidden hunters notice of the approach of the bears. If deer only were seen, they were to shout, "The deer are coming!"

Finally, one of the hunters on the east side of the lake saw the bears and shouted, "Look out there; two brother deer are coming down the hill!" There were two trees standing some distance apart with a thick, brushy place on each side. One hunter hid behind each tree. A third hunter stood very close to a near-by opening in the deer fence and in plain sight of the bear doctors, who immediately made after him. At each jump of the bear doctors the water in their baskets rattled and made a great noise. The hunter was but a few feet from these trees when the bears came close to him, so he dodged between the trees and the bears followed.

Immediately the two hunters behind the trees attacked the bears from the rear with their clubs and jerked the masks from their heads. The other hunters came up armed with clubs, bows and arrows, and stones, and found the bear doctors standing very shame-facedly before their captors.¹²

Every one shouted: "These are the two we suspected; we have them now." Some wanted to kill them immediately with clubs, others wanted to burn them alive, but the captain restrained them and insisted upon first questioning the bear doctors. They finally confessed to the murders, and took the hunters to their hiding place. Here they exposed their entire secret and told all the details of their work: how they dug the cavern, how they made the ceremonial outfits, and how they killed people. The hunters then stripped the bear doctors and took them, together with all their paraphernalia, and the property they had stolen, back to the village, placed them in their own house, tied them securely, and set fire to the house. Thus ended the bear doctors. That is how the knowledge of this magic was acquired. It has been handed down to us by the teaching of these secrets to novices by the older bear doctors ever since.¹³

¹² This loss of magic power and their consequent capture was explained as a supernatural penalty for their attempt to kill more than four victims in any one year.

¹³ One informant ascribed the source of Pomo bear doctor knowledge to the Lake Miwok, to the south. This opinion, of course, conflicts with the preceding origin tale.

ACQUISITION OF POWER

Even as late as the closing years of the nineteenth century many of the Pomo were convinced that bear doctors were still active; this in spite of the fact that the whites had at that time long possessed complete control of the entire region, and had succeeded, purposely or otherwise, in suppressing most of the aboriginal practices of the Indians. Evidently the belief was a deeply rooted one in the native mind. On the other hand, since the nefariousness of the alleged practices would cause them to be carefully concealed, there are now some Pomo skeptics who maintain that bear doctors never existed.

Both men and women of middle or old age could become bear doctors, the same name¹⁴ being applied to both. In fact, it is said that women sometimes made very successful bear doctors; even a woman so old and feeble that she could hardly walk would acquire great powers of endurance and swiftness through this magic.

It is said that a bear doctor always learned from an old person who was or had been one. The training for both men and women was precisely the same and they were on a par in every way. A female bear doctor could not operate during her menstrual period, but a male bear doctor was similarly restricted by the menstrual periods of both his wife and his female assistant or the other female members of his household. He was even prohibited from going near his bear hiding-place during his wife's menstruation. The periods of other members of his household also restricted him.¹⁵

No specific fee was paid for instruction in bear-doctoring, but the instructor was given a large share, usually one-half, of the spoils obtained by the new doctor in his murders. Also he could command the assistance and protection of his pupil, who must stand ready, if necessary, to lay down his life for his instructor. Each bear doctor selected some friend to whom he willed his entire outfit and whom he instructed fully in its use. Upon his death this protégé took possession of the paraphernalia and the hiding place of his friend and used them as he saw fit.

¹⁴ The bear doctor was known to the Pomo as *gauk būrakal*, "human bear." *Būrakal* specifically denotes the grizzly bear. The brown or cinnamon bear is *kīma*, but black individuals, which we reckon as of the same species, were called *ciyō būrakal*, "black grizzly bears," by the Pomo.

¹⁵ It would appear that restriction depended rather upon co-residence than blood kinship. The extent to which the taboo might accordingly affect a bear doctor's activities will be realized when we reflect that it was customary for several related families to reside in one house, each family having its own door and each two families a separate fire. In the center of the house was the common baking pit.

A bear doctor might "catch" a man who was out in some lonely spot, particularly a solitary hunter, take him to his hiding place, and teach him his secrets.¹⁶ Particularly was this the case if the bear doctor happened to be a man possessed of few friends, since it was thought necessary for him to will his paraphernalia to some one. Stories are told of specific instances in which persons have been thus made captive and instructed. Thus:

An old she-bear caught a young hunter from a village in the Santa Rosa Valley. She first jumped out upon him from her hiding place and frightened him badly. She rolled him about on the ground and made as if to kill him. Though greatly frightened, the boy made no outcry, but watched her closely. Finally she sat astride him for quite a long time and the boy ceased to be alarmed. She then led him away over the long journey to her hiding place on a high, rocky peak east of Santa Rosa. On the way they heard, late in the afternoon, the people down in the valley calling his name as they searched everywhere for him.

Finally they arrived at the bear's cave in the rocks, where she had a bed of moss and leaves just as a bear usually does in its den. In the early part of the evening the boy became homesick and fearful of his fate and began to cry. It was then that the bear doctor revealed herself. She removed her suit, showing her human form, and said to him: "I did not catch you to kill you. I desire only to show you how we become bear doctors and instruct you in our magic. Only human beings live in this section of the mountains. In the morning I shall place my bearskin suit upon you and you shall practice bear-doctoring." This did not, however, reassure and comfort the boy, and he continued to sob and weep during the greater part of the night, despite the repeated assurances of the bear doctor that she would not harm him, but was, on the other hand, just like an elder sister to him and wished to teach him powerful magic. She finally prepared a good meal for him and he forgot his fright and, temporarily, his own people.

During the night she taught him her songs, and at daybreak began to instruct him in the ritual of donning the suit. This, of course, required that he should completely strip himself. At first he was much ashamed, but the bear doctor told him that he must not be, any more than if he were only exposing his nose.

About midday, this part of the instruction being finished, she put her own suit on him and gave him his first practice. She told him to first jump four times along the ground and then jump up and try to catch a high limb of a near-by tree, trying repeatedly until he could catch the limb. Then he would be able to do anything that she could.

She then stepped back, looked him over, and smiled at him. This made him conscious and he hung his head and did not move until she commanded him to jump. At first he jumped only short distances, but he continued his practice for four days, each day donning the suit with the elaborately regulated ritual, and finding, each day, that he could jump a little farther and a little higher than on the previous one. At last he succeeded in reaching the limb and in jumping down at one jump and back to the starting point in four more.

His tutor rejoiced at his success, and said: "Now you will succeed in every

¹⁶ Usually, however, a person caught in this way was used as a "head rest" and servant, it is said, and received no instruction whatever.

way and enjoy good luck, secure plenty of beads and other goods, be able to travel far and possess great endurance."

She then gave him a complete outfit and told him that he would thereafter procure an easy living and wealth if he would use it and observe the secret rites she had taught him. She, herself, had acquired great quantities of property—beads, food, and other commodities—which she stored in her hiding place.

A bear doctor was not permitted to kill more than four people in one year, upon penalty of the loss of his magic power and consequent capture upon his attempt to kill the fifth.

ASSISTANTS

A bear doctor must always be assisted by some one. He usually hired some female relative who could be trusted to secrecy. She wove for him the water baskets which formed part of his costume and cooked for him the special food which he must eat while operating as a bear doctor. She must observe the same restrictions as the bear doctor himself, abstaining from meat or foods containing blood in any form, and also from sexual intercourse. The evil consequences of a violation of these restrictions did not befall her, but the bear doctor himself was sure to be killed in combat or captured, which meant certain death at the hands of an outraged populace.

This assistant was never the bear doctor's wife, but the wife, if he had one, must remain abed in the morning until the sun was high and the bear doctor was well on his way from his hiding place. She might then rise and go about her daily routine as usual. If he had no wife, his female assistant must observe this restriction for him.

In making a suit, it was necessary for a bear doctor to have an assistant who not only helped in the actual construction of the suit but also sang the long series of songs required during the ceremony when the suit was first put on.

HIDING PLACES

Since custom prescribed that every person leaving a village told where he was going and the purpose of his mission, it was difficult for a bear doctor to get away, undetected, for the pursuit of his nefarious practices. All his preparations must, therefore, be made in perfect secrecy. Very frequently he gave as an excuse for his absence that he intended to go in search of manzanita berries or hunting in some distant locality, sometimes announcing a stay of several days. Since he was forbidden to partake of food or water on the morning of the

day he wore the bear costume, he usually ate and drank heartily the night before, and repaired to his hiding place before daybreak. To lend color to his excuses, he usually brought home some game or berries. As a rule these were not handled at all while wearing the bear suit, although apparently it was believed that no penalty was attached to doing so.

Whenever possible a bear doctor found some natural cave or secluded spot in a deep cañon, or in the most rugged mountains. If necessary, he dug a cavern, as related in the foregoing myth, taking care to scatter the fresh earth about in such a manner that it would not be detected. Such a place of seclusion was called *yēlīmo*, *būrakal yēlīmo*, or *kabē ga*.

Near by a level "practice" ground, called *cīyō xe gai*, literally "bear dance place," was prepared, where, the weather permitting, the bear doctor performed the ceremonies connected with donning his suit. In bad weather these rites were performed in the sheltered cavern. This practice ground was simply a level place in the bottom of a cañon near the cavern. It was an elliptical clearing about twenty feet long by ten to fifteen feet wide. No trail led to it, the bear doctor and his assistant exercising the greatest care to obscure as much as possible every evidence of their movements, not even a broken twig being left about as a clue.

THE MAGIC SUIT

The suit of the bear doctor, called *gawī*, was made as follows: First, an openwork basket was woven of white oak twigs to fit the head and with openings for eyes, nose, and mouth. Disks of abalone shell with small openings to permit actual vision were fitted into the eye openings in the basket. This basket served as a foundation over which to place the skin of the bear's head. It was made so that it exactly fitted the wearer's head and remained in place even when he moved violently. The covering of this helmet, as also the outer covering for the rest of the body, was usually made of real grizzly bear skin, though a net covered with soaproot fiber was sometimes used. The skin of the bear's head was shaped, but not stuffed, so as to retain its proper form, the eye-holes of the skin being made to fit the shell-filled eye-holes in the basket. The remainder of the bearskin was fitted exactly to the body, arms, and legs so as to perfectly hide every part of the body and give the wearer the appearance of a grizzly.

When soaproot fiber was used in making the bear doctor's suit, a

fine net was first woven and thickly covered with shredded soaproot fiber (*ap tsida*). This was woven entirely in one piece and so arranged as to completely cover the wearer from head to foot, including the basketry helmet just mentioned. It laced in front.

A low shoe, with the sole rounded and shaped somewhat like that of a bear's foot, was worn. This shoe was made of woven basketry held between two hoops and so arranged that the foot went between the two sections, which were attached directly to the costume. It was said that sometimes, also, similarly shaped shoes were placed upon the hands. At other times nothing was worn on either hands or feet.

Before donning the suit an "armor" of shell beads was put on. Four belts covered the abdomen. Each was about six inches wide and made of a different size and form of beads. One, called *hmūkī*, covered the umbilicus. The other three, which were placed one above the other, completely covered the remainder of the abdomen, chest, and back up to the armpits, and were called respectively *kībūkāl*, *catanī kūtsa*, and *tadatada*. The last protected the heart, and was made of very large, discoidal beads. Ordinarily these bead belts were woven in the usual way. Sometimes, however, one or more of the four was covered without by a layer of woodpecker scalps. Strings of shell beads were wound closely about the arms from wrist to shoulder and the legs were similarly covered. All these beads served as a protection against arrows in case the bear doctor was attacked by hunters.

A type of body armor, made of wooden rods and used in open warfare, is said to have been sometimes used by bear doctors. This consisted of two layers of rods obtained from the snowdrop bush (*bakol*), each rod being about the size of a lead pencil. These were bound together with string, one layer of rods being placed vertically and the other horizontally, in such a manner as to make a very close and effective armor.

Two globose, three-rod foundation baskets, called *kūtc tcadōtcadoi*, and each about three inches in diameter, were half filled with water and each encased tightly in a closely woven fabric made of milkweed fiber cord, or in a casing of rawhide. One was then tied, inside the bearskin suit, just under each jaw or under each armpit. In the soaproot fiber suit, small pockets were woven on its inner surface for their reception. The swashing of the water made a sound (pluk, pluk, pluk, pluk) resembling that of the viscera of a bear as he moves along. Sometimes, instead of these baskets, a slightly larger pair of plain-twining were tied one at each side at the waist. The doctor never

wore more than one pair at a time and never wore a single basket alone. Canoe-form baskets ten or twelve inches long and with unusually small openings were sometimes carried in place of the small, globose baskets above mentioned. They were sometimes filled with water, as were the small baskets, and at other times were used as receptacles for beads, berries, or other commodities.

Plate 7 (frontispiece) shows a Pomo bear doctor suit, in the Peabody Museum of Harvard University, reproduced by courtesy of Mr. C. C. Willoughby. This is a model. While differing in some details from the explanations received from informants, it confirms them in substance.

WEAPONS AND THEIR USE

A bear doctor usually carried one and sometimes two elk-horn daggers, called *bōō a*, literally "elk horn." Such a dagger was from six to ten inches in length and was made by pounding at its base and breaking off the large end point of an elk antler and sharpening its tip. It was rubbed on a grinding stone and smoothed throughout its length and a hole was bored in its base through which a loop about two feet long was passed for suspending it about the neck or from the belt. This loop was always of string, as this is not affected by dampness.

Obsidian or flint knives, called *bat!*, were sometimes used in addition to or in place of the elk-horn dagger. The blade of such a knife was made by first striking the larger flakes from it with a hammer stone and then chipping its edges with an antler chipping tool. This blade was set into a split oak handle and bound securely with string, but was not pitched. Both of these were thrusting weapons.

Other weapons were sometimes used, even the stone pestle being employed as a weapon.

Bear doctors often operated in pairs, and sometimes in greater numbers. They frequently deployed so as to cover a considerable area in their hunt, and had a method of intercommunication. If a prospective victim was sighted at some distance, the bear doctor stood erect on the top of the nearest ridge, with his back turned directly toward him. This signal brought the other bear doctors into positions to surround the victim. Informants maintain that in the actual attack a bear doctor frequently stood unconcernedly, near the path of his victim, and with his back toward him until he was quite near. He then whirled and attacked suddenly. They stated that this was also the method of attack of a real bear.

It is said that the only way to overcome a bear doctor was to seize his head or shoulders and jerk off his helmet. This completely removed his magic power. The story is told that Kamachi, a very brave and powerful man formerly living at the Yorkville Rancheria, mistook two real bears for bear doctors, attacked them in this manner, and finally succeeded in killing them.

rites over the suit

When the suit was put on for the first time by the bear doctor, the following elaborate ceremony was performed. The assistant took up his position in the center of the practice ground, having on one side of him four hundred counting sticks, each about the size of a lead pencil, nicely arranged in even rows. Directly in front of him was the entire bear doctor's suit, except the beads and bead belts; that is, the basketry helmet, the bearskin garment, the two water baskets, the dagger of elk antler, and the obsidian knife. These were the articles which were strictly ceremonial, and which must never be handled by women or children for the reason that they were the property of the particular supernatural beings under whose patronage the bear doctor operated and whose powers were invoked for his success, especially by means of a long series of ritualistic songs sung by his assistant during the ceremony of donning the suit, now to be described.

While the assistant sang the ritualistic songs, the bear doctor who was to wear the suit danced up toward it four times each from each of the four cardinal points in the following order: north, west, south, and east. Each time the dancer advanced toward the suit, the singer raised above his head one counter from the one side and as the dancer receded placed it on his opposite side. Thus this portion of the ceremony took sixteen counters. Having thus approached the suit four times the sacred number four, the dancer picked up with his left hand the basketry helmet and danced with it four times around the practice ground, the singer keeping tally with the necessary four sticks. He then danced four times up toward and back from the place on the practice ground where he intended to temporarily place this object, so using another four counters. Thus there were used in all with this one object twenty-four counters.

He did precisely the same with each of the remaining five articles of the suit. Thus one hundred and forty-four counters were transferred from the original group to the singers opposite side.

He next took all six of these articles in both hands and performed the same cycle of twenty-four dance movements that was employed in handling each separately, so using one hundred and sixty-eight counters up to this point.

He then repeated this entire cycle of one hundred and sixty-eight dance movements in precisely the same order and manner as just described, but using the right hand instead of the left, thus using three hundred and thirty-six counters up to this point.

He next repeated all the foregoing movements exactly in reverse order in every respect; taking up the articles in reverse order and dancing toward the cardinal points in reverse order and using the hands in reverse order, thus using six hundred and seventy-two counters up to this point.

He finally took the entire suit in both hands and went around the practice ground four times in a clockwise direction and then four times in a contra-clockwise direction, thus using in all six hundred and eighty counters, indicative of that number of separate movements, or rather one hundred and seventy distinct types of movements each repeated four times.

Throughout this entire ceremony the assistant sang ritualistic songs invoking, in the ascending order of their importance, the aid of the particular supernatural beings under whose patronage the bear doctor was supposed to be and with whom he came into direct contact. According to one informant, these were, in order, brush-man, rock-man, shade-man, spring-man, pond-man, mountain-man, and sun-man, though a large number of others are also included.¹⁷ In fact, it seems probable that all the spirits of the Pomo world are supposed to be directly concerned. The following were specifically mentioned by the informants:

<i>English</i>	<i>Eastern Dialect</i>	<i>Central Dialect</i>
Mountain-man	danō gak	danō baiya
Water-man	xa gak	ka baiya
Night-man	dūwē gak	iwē baiya
Valley-man	gagō gak	kakō baiya
Brush-man	se gak	see baiya
Rock-man	xabē gak	kabē baiya
Spring-man	gapa gak	gapa baiya
Shade-man	cīyō gak	
Fire-man	xō gak	hō baiya

¹⁷ Another informant gave as these chief spirits sun-man, mountain-man, wind-man, night-man, water-man, and valley-man, though not stating that they were considered in this order.

<i>English</i>	<i>Eastern Dialect</i>	<i>Central Dialect</i>
Disease-man	gak kalal	ital baiya
Insanity-man	gak dagöl	daköl baiya
güksü	güksü	küksü
Whitled-leg widow	kama sili düket miya	cakü kattciü
Dream-man	marü	marü
Wind-man	yai ki	ya teate
Pond-woman	danö kawö	
Blind-man	üi bagö	üi nasai
Sun-man	da tea	
Sun-woman	da mata	
Deer-man	bice gaük	pee tea

To all these he sang songs and made prayers the substance of which usually was: "You know what I am doing. I am doing as you do and using your ways. You must help me and give me good luck."

He sang to and invoked particularly Sun-man because he was an all-seeing deity and knew everything that happened all over the earth, and more particularly because as Sun-man rises with the sun each morning he comes with his bow and arrow drawn and ready to shoot on sight any wrongdoer. Unless, therefore, Sun-man was propitiated and previously informed of the bear doctor's intentions, he was likely to shoot him just as the sun appeared above the horizon. The substance of his prayer to Sun-man was: "I am going to do as you do. I shall kill people. You must give me good luck."

When the suit was finally put on there was a certain amount of ceremonial procedure. The beads used as armor were first put on the naked body. The arms and legs were closely wound, each with a single long string of beads. The bear doctor then danced around the practice ground four times in a clockwise direction and then four times in a contra-clockwise direction. He next advanced toward and receded from the suit four times each from the north, west, south, and east. He then made four times a motion as if to pick up the suit, and again four times the motion of putting the suit on, after which he donned it and was completely ready for his journey, being endowed with all the supernatural powers of the bear doctor.

Throughout the entire construction of the suit, and also throughout the ceremony connected with putting it on, he turned his head around toward the left after each separate action, such as lifting up or putting down any article and after each dancing up and back toward the suit, or running around the practice ground.

Each subsequent donning of the suit was quite simple. The bear

doctor picked up each article separately and made a motion with it four times toward the part of the body it was to cover, turning his head four times to the left after each of these sets of four motions. He then put on the suit and danced in a contra-clockwise direction four times around the practice area or the interior of his cavern, as the case might be, after which he was fully ready for his journey.

In case of inclement weather the bear doctor dressed in the shelter of the cavern, but if the weather was fair this was always done on the practice ground.

In undressing, on the other hand, the bear doctor performed no ceremony at all, but simply took off his suit and carefully laid it away, hanging up in the cavern the bearskin itself to keep it clean. It was necessary that a bear doctor swim immediately upon removing his suit. Still dressed in his bead armor, he went, therefore, to his swimming place, removing the beads and piling them on the bank. This was done so that if discovered he had immediately at hand a treasure with which to buy secrecy. The penalty paid by an informer who had been thus bribed was certain death at the hands of the bear doctor. Upon emerging from the pool, he returned to his cavern, carefully folded the belts and strings of beads and laid each away separately until the suit was again needed.

COMMUNICATION BETWEEN BEAR DOCTORS

Informants state that the various bear doctors all over the country knew each other.¹⁸ Two or more of them often met by chance at some spring or other secluded spot in the mountains, and at such times discussed their activities. They might tell each other where they expected to be next month, or what mountain they would use as a hiding place and base of operations next year.

Each bear doctor acted independently and knew no restrictions of any sort so far as his fellows were concerned, nor had he or his relatives any immunity from the attacks of other bear doctors, for one bear doctor might become enraged at another and cause his death or that of some of his relatives.

The only persons who were immune from these attacks were the captain of the village and his immediate family. He knew all the bear doctors and received a share of their spoils in consideration for his friendly protection.

¹⁸ So far as could be ascertained, they formed no organized society, and never met as a body.

Any bear doctor or person who knew all the secrets of bear doctoring usually took his relatives, or, at any rate, certain of them, to this hiding place and showed them enough of his secrets so that they would lose their fear of bear doctors and not be frightened when they heard of the death of some one through an attack by bears. Such partially initiated persons always mourned the loss of the victim as did the rest of the people, but were not, in reality, afraid of the bear doctors.

PANTHER DOCTORS

While the bear doctor was the most important of magicians, there were also mountain lion or panther doctors, who were also possessed of considerable power. Very little was learned of this class of medicine man save that the head part of their suits was made of the head and neck of an actual panther skin drawn over a basket frame similar to that used by the bear doctor. The remainder of the suit was made of shredded soaproot fiber woven on to a fine net, which was said to simulate quite well the skin of the panther.

The panther doctor wore no bead armor as did the bear doctor, but wore a necklace of small and finely made shell beads around his neck. He always carried a bag filled with valuable beads with which to bribe to silence any one who might discover him. The bear doctor used the beads comprising his armor for this purpose.

COMPARISON WITH YUKI BELIEFS

The ideas that the doctor is actually transformed into a bear, that bear hair grows out through his skin, and that he comes to life after having been killed—ideas found among certain California Indians¹⁹—have not been discovered among the Pomo.

As might be expected, from the contiguity of the two groups and their numerous cultural identities, the Pomo and Yuki²⁰ bear doctors are very similar. The Yuki, however, have certain beliefs that the Pomo do not possess.

The Yuki bear doctor began by repeatedly dreaming of bears and was taken out and instructed by actual bears, thus placing the bear in the position of a true guardian spirit, and making the doctor a real

¹⁹ Kroeber, *loc. cit.*

²⁰ This comparison is based on manuscript data of Dr. Kroeber concerning the Yuki.

shaman. Later he was thought to be instructed and to have his powers developed by older shamans. The Pomo have no such notions.

The Yuki bear doctor was not always an evildoer, but in some measure an accepted benefactor, particularly in curing bear bites and in avenging wrongs to his community. His capacity thus was publicly recognized—a fact that is further evidenced by his performance of sleight-of-hand tricks. The Pomo bear doctor never performed any cure, practiced his magic with the greatest secrecy and only for his own satisfaction and aggrandizement, and had death awaiting him at the hands of his own people if he was unfortunate enough to be discovered.

The Yuki bear doctor carried a basket containing a stone which rumbled in imitation of the bear's growl as the shaman shook his head. Analogous to this was the Pomo bear doctor's set of water-filled baskets which swashed like a real bear's viscera as he ran.

Both carried beads; but the Yuki to secure appropriate burial if killed, the Pomo as an armor and to bribe to secrecy him who might discover him.

The mode of attack and the dismemberment of the victim were quite similar in both tribes.

COMPARISON WITH MIWOK BELIEFS

The Northern Sierra and Plains Miwok called bear doctors *sulik müko*. These shamans donned bearskins, but, like their Yuki colleagues, had bears as spirits and exhibited their powers publicly. Like the Yokuts bear doctors, they were thought able to transform themselves bodily into bears.

The Miwok relate how a man was hunting in the chaparral south of the Stanislaus when a bear appeared and asked what he was doing. The Indian replied that he was seeking an arrow lost in a shot at a red-headed woodpecker. The bear led him into its cave, kept and taught him for four days, and sent him home with several bears as guides. A white man, married to an Indian woman, instigated the building of a dance-house to give the bear doctor an opportunity to show his alleged powers. The latter accepted, came, walked into the fire, pushed aside the flaming brands and made himself a bed in the coals, arose after a time unharmed, swam, and resumed his human form.

The Miwok panther doctor was similarly met and instructed by a

panther. He wore no skin and possessed no power of transformation. He did, however, acquire the panther's ability to hunt, it was thought. In extreme old age he revealed his experiences and then died at once.

It is clear that the Miwok panther doctor is merely a shaman who has that animal as his personal guardian spirit, and that except for his power of transformation and the character of his guardian, the Miwok bear doctor does not essentially differ from an ordinary shaman.

It seems therefore that the institution of the bear doctor has attained its most extreme form among the Pomo.

SUMMARY

1. The origin of bear doctors is assigned by the Pomo to the mythical times before men existed, when birds and mammals possessed human attributes. The first bear doctors arose from a relatively insignificant incident, which led one of the smallest of the birds to develop his magic powers.

2. These powers are believed to be now acquired through the wearing of a special suit which endows its wearer with rapidity of motion and great endurance, but which does not itself actually transport him or perform any act.

3. The powers are received through elaborate ritualistic songs and prayers to certain supernatural beings under whose patronage the doctor operates. These songs are largely sung not by the doctor himself but by an assistant while the doctor performs an elaborate dance with the various parts of the costume preparatory to actually putting them on for the first time.

4. In addition to this constant assistant, the bear doctor must have a female aide, who makes certain parts of his paraphernalia and cooks his special food. He is subject to certain restrictions connected with the menstrual periods of this female aide and his wife, and they, in turn, are subject through him to certain other restrictions.

5. Although all-powerful under ordinary circumstances, a bear doctor apparently loses all his magic power as soon as he is captured.

6. Bear doctors are all known one to another, but form no organized group or society. They are also usually known to the chief, to whom they pay tribute and give guarantee of immunity from attack in return for his connivance and protection.

7. In exceptional cases the bear doctors are harmless, but in the main their object is to kill and plunder, and they carry special weapons for this purpose. They do not practice curative medicine in any form.

8. There are apparently other kinds of magicians similar to bear doctors. One of these, the "panther doctors," has been specifically mentioned.

These statements reflect the opinions of the Pomo. Some of the practices described by them could easily have had a basis in fact. Whether and to what extent they were actually performed remains to be ascertained.

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ERRATA

- Page 34, line 14. *For* appellation *read* appellation.
- Page 77, line 11. *For* lialects *read* dialects.
- Page 181, footnote. *For* p. 81 *read* p. 189.
- Page 182, line 13. *For* polygnous *read* polygynous.
- Page 188, line 12 from bottom. *For* polygnous *read* polygynous.
- Page 276, second paragraph. Omit second line.
- Page 346, line 7. *Read*: different clans; yet it is only to these cousins that brother-sister names
- Page 346, line 7. *For* partrilinear *read* patrilinear.
- Page 370, last line. *For* XI *read* IX.
- Page 374, after line 19. *Insert*: *Ne-lai-yewit*, sister, female cousin, or more distant female relative of a woman.

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